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CONSTRUCTION AND EQUIPMENT

No. 22

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CONSTRUCTION

VARIOUS ASPECTS OF CAPITAL INVESTMENT IN CONSTRUCTION

Capital Investment Financing

Moscow EKONOMICHESKAYA GAZETA in Russian No 26, 1980 pp 1-6

[Instructions on the Procedure for the Depositing of Own Funds with Banks for the Financing of State Capital Investments as Approved by the USSR Stroybank, the USSR Gosbank and Ratified by the USSR Ministry of Finances on 7 March 1980]

[Text] General Provisions

1. For ensuring uninterrupted financing of capital construction, the production associations, enterprises, institutions and organizations¹ are to deposit the profit, amortization deductions, and money from the production development fund and the fund for sociocultural measures and housing construction, as well as other sources² stipulated by the financial plans as sources for capital construction financing with the institutions of the USSR Stroybank and the USSR Gosbank.

2. The ministries, departments, and the executive committees of the soviets should exercise control over the prompt depositing of internal funds with the banking institutions by the subordinate associations and enterprises for the financing of state capital investments, employing compulsory confiscation when necessary.

3. The institutions of the USSR Stroybank and the USSR Gosbank are to apply measures to ensure the prompt depositing of internal funds for the financing of state capital investments, including uncontested collection of these funds, by the ministries, state committees, departments, main

¹Production associations, enterprises, institutions and organizations are subsequently termed "associations and enterprises."

²Profit, amortization deductions, money of the production development fund and the fund for sociocultural measures and housing construction and other sources are subsequently termed "internal funds."

administrations (administrations), all-Union and republic industrial associations, all-Union construction and installation associations, trusts, combines, administrations (departments) of the executive committees of the soviets,³ by the associations and enterprises.

In those instances when, as a consequence of the nonfulfillment of the accumulation plans, the prompt depositing of internal funds in the financing accounts is not achieved, the banking institutions are to submit proposals to the appropriate economic bodies on the reduction of capital investments by the total of the nondeposited funds.

If the associations and enterprises and their superior bodies do not eliminate the causes of the nonfulfillment of the plan for depositing internal funds and capital investments have not been reduced, the republic banking offices inform the sectorial administrations of the Board of the USSR Stroybank and the Board of the USSR Gosbank of this for examining these questions together with the ministries and departments, and for preparing the appropriate proposals.

4. The internal funds deposited with the banking institutions for the financing of state capital investments, when they are not used by the end of the year, are not closed out for the ministries which have been converted to the normative method of profit distribution.

5. The banking institutions finance construction from the internal funds actually received for this purpose, but within the limits of the annual plan for their depositing on accounts for the financing of the state capital investments of the associations and ministries.

6. The ministries and other managerial bodies in the financial plans can provide for the centralizing of the deposits of internal funds on accounts in the appropriate banks for financing state capital investments of subordinate associations and enterprises within the procedure stipulated by the current instructions.

7. The internal funds of the interfarm enterprises and the participating farms, when deposited in the account for the financing of capital investments for the interfarm enterprises and when not used by the end of the year, are to be channeled, with their agreement, within the limits of the financing plan, to reduce the long-term credit actually received over the year. The unused internal funds of the interfarm enterprises remaining

³The ministries, state committees, departments, main administrations (administrations), all-Union and republic industrial associations, the all-Union construction-installation associations, trusts, combines, administrations (departments) of the executive committees of the soviets are subsequently termed "ministries and other managerial bodies."

after this and the funds obtained from participating farms, such as sovkhoses and other agricultural enterprises converted to full cost accounting, sovkhoses and other cooperative enterprises on a proportional basis, at the year's end are not closed out and are used to finance capital investments in the following year within the limits of the established capital investment volumes.

Procedure for the Transferral of Internal Funds

8. The internal funds of the associations and enterprises are deposited at the financing institutions of the USSR Srobybank and the USSR Gosbank on accounts for the internal funds of these associations and enterprises, and in the event of the centralizing of the internal funds, to the accounts of the superior bodies for internal funds, the payment accounts or the accounts for the redistribution of working assets.

The nonreceipt of the funds to be deposited by the associations and enterprises does not release the ministries and other managerial bodies from the prompt centralized depositing of the owed amounts with the banking institutions. The superior bodies can submit orders for uncontested collection of the amounts to the associations and enterprises which have not promptly transferred the centralized funds.

9. The internal funds are transferred to the institutions of the USSR Srobybank and the USSR Gosbank at least once every 10 days, no later than the 10th, 20th and 28th of each month in totals stipulated by the financing plan (in an amount of at least one-ninth of the quarterly plan).

In necessary instances, the associations and enterprises, the ministries and other managerial bodies, with the agreement of the banking institutions, can establish more frequent dates for depositing internal funds for the financing of capital investments.

The Ministry of Railroads for basic railroad operations transfers internal funds, or upon its instructions, the bank writes off, the funds in a centralized procedure in six-day periods, the 11th, 17th, 23d and 29th of the current month and the 5th of the following month. For the last six-day period of December, the funds are transferred not later than 25 December.

10. With the delayed or incomplete depositing of the 10-day payments, the banking institutions inform the ministries and other managerial bodies of this, and these issue the banking institutions with orders to collect the undeposited amounts without contest.

The orders for the uncontested collection of internal funds which are to be centralized but have not been transferred promptly are issued by the ministries and other managerial bodies according to departmental affiliations.

11. The internal funds of the interfarm enterprises and organizations as well as of the kolkhozes and other cooperative enterprises, when being channeled to finance capital investments, are transferred from the appropriate accounts to the accounts of the interfarm enterprises and organizations in the banking institutions (the balance account No 743) within the totals provided by the financial plan. The transferral of the designated funds is carried out on the 10th, 20th and 28th of each month in an amount of one-ninth of the quarterly total with a recalculation for the actually made deductions into the funds.

12. The associations and enterprises which transfer internal funds for the financing of the capital investments as well as the ministries and other managerial bodies which deposit their internal funds in a centralized manner submit to the institutions of the USSR Stroybank and the USSR Gosbank where their accounts are located for internal funds bookkeeping information on the amounts of the deposited (accumulated) totals of internal funds which are to be transferred for the financing of state capital investments, as well as on the distribution of these funds according to the form shown in Appendix No 1, and the interfarm enterprises and organizations use the form shown in Appendix No 2. The technical instructions on the procedure for filling out and checking the bookkeeping reports are given in Appendix No 3.

The ministries and other managerial bodies include in the bookkeeping reports submitted to the banking institutions all associations and enterprises which according to the plan should deposit internal funds for the financing of capital investments of other associations and enterprises.

The institutions of the USSR Gosbank which finance capital investments upon instructions of the institutions of the USSR Stroybank receive bookkeeping reports in two copies of which one is sent to the appropriate institution of the Stroybank, and on the basis of the other the demand for the undeposited amounts is drawn up.

The enterprises and organizations, the all-Union and republic industrial associations, the all-Union construction-installation associations, the main administrations and other managerial bodies draw up bookkeeping reports monthly, while the ministries, state committees and departments do this quarterly. The designated reports are submitted on the dates stipulated for the submission of balance sheets.

13. After the receiving of the bookkeeping report, the institutions of the USSR Stroybank and USSR Gosbank check the conformity of the deposited internal funds to the actually accumulated (on deposit) funds according to the report balances and destined for the financing of capital investments and indicated in these reports. The actual on-deposit (accumulated) internal funds according to the report balances but which have not been made on time are collected by the banking institutions without contest from the payment reports of the associations and enterprises, and with centralized payments, from the payment accounts or the accounts for the redistribution of working assets of the ministries and other managerial bodies.

The internal funds which have not been deposited on time are written off on the basis of the instructions of the banks and these are written out no later than the following day after the receipt of the bookkeeping report.

Upon petition of superior bodies, actually on-deposit amounts of internal funds which have not been deposited under centralized procedures can be collected upon instructions of the banking institutions from the payment accounts of the associations and enterprises. The instructions for the uncontested collection of undeposited totals of internal funds are sent to the institutions of the USSR Srobybank and the USSR Gosbank at the location of the payment accounts of the payers according to form No 04058029 (Appendix No 4).

14. The orders of the economic bodies for the transfer of internal funds, the instructions of the ministries and other managerial bodies and the instructions of the banking institutions for the uncontested collection of internal funds are carried out in the order of the established sequence of payments.

15. The amounts of internal funds received by the banking institutions in the new calendar year on the basis of instructions for the uncontested collection of these funds and the orders of economic bodies issued in the previous year, as well as the total undeposited amounts collected by the banking institutions in the current year on the basis of bookkeeping reports for the previous year are entered on the account of deposits of the internal funds of the associations and enterprises, the ministries and other managerial bodies, as stipulated by the plans for the financing of capital investments in the current year.

Procedure for the Offsetting of Claims for the Deposits of Internal Funds

16. The banking institutions, upon the request of the associations and enterprises, can offset the claims for the deposits of internal funds for the financing of capital investments and for payments for basic operations with their own construction.

With a debt in the bookkeeping report for the deposits of internal funds or if the file contains instructions for the payment of internal funds and claims for basic activities for performed work, dispatched material valuables and services rendered for own capital construction, the banking institutions can, without the request of the associations and enterprises, offset these claims against the deposits of the designated funds.

The designated offsettings are carried out in the following manner:

If the payment account and the account for the financing of capital investments of the association and enterprise are located in one banking institution, then the amounts to be offset are shown fully for the debit and credit of the payment account, for the debiting of the account for the

financing of capital investments and for the credit of the account for internal funds;

In those instances when the payment account and the account for the financing of capital investments are in different banking institutions, the associations and enterprises turn over to the bank financing the capital investments a statement for offsetting or clearing (in three copies), on the basis of which an instruction of the credit department is drawn up and the designated banking institution shows the amounts to be offset against the debit of the account for the financing of capital investments and a credit for the account for internal funds. The second copy of the request with a note on the performed offset operation is turned over by the banking institution to the banking institution at the location of the payment account of the association and enterprise. On the basis of this application, the credit department draws up an instruction in accord with which the offset amounts are shown on the debit and credit of the payment account. The designated instruction is signed by the leader of the banking institution. The third copy of the request for offsetting with a note on the performed offset operation is returned to the association and enterprise;

In those instances when the offset is carried out without the application of the association and enterprise, the leaders of the banking institutions issue instructions indicating the numbers, dates, totals and types of documents to be paid for by clearance, as well as the names of the payer and recipient of the funds. The designated instructions serve as the basis for the bookkeeping entries for the accounts.

Offsetting transactions are made independently of the presence of previous claims as well as in the absence of money in the account.

Calculations for Profit Payments

17. The associations and enterprises, and with centralized deposits, the ministries and other managerial bodies pay to the institutions of the USSR Stroybank and USSR Gosbank profits for financing capital investments within the limits of actual accumulation, but not above the amounts provided for by the annual financing plans. The profit is paid within the amounts and on the dates stipulated by Point 9 of the current instructions.

18. The associations and enterprises, the ministries and other managerial bodies, after receiving the bookkeeping report, verify the conformity of the actually paid profit to the total profit to be paid.

The total profit to be paid proceeding from the actually accumulated profit is determined in the bookkeeping reporting proportionately to the ratio between the total amount of planned profit minus the corresponding payments and deductions and the total profit provided by the plan for the financing of capital investments.

The calculations to determine the amount of profit to be paid to the bank for financing the state capital investments are given in the technical instructions on filling out the bookkeeping report.

19. The profit received by the banking institutions above the total to be paid is entered during the year on the account of the regular profit payments, and also with the agreement of the economic body can be used to cover the underpayment of other internal funds.

The profit received above the total to be paid, upon the request of the associations and enterprises, can be returned to them with an unused balance of funds in the accounts for the financing of capital investments and in the absence of an underpayment for this period for the other sources in instances when the plans for the following quarter of the associations and enterprises do not provide for profit payments to the banking institutions.

Calculations for the Payment of Amortization Deductions

20. Amortization deductions earmarked for the complete replacement of fixed capital are to be paid to the banking institutions by all associations and enterprises. The payments are made both on the spot and in a centralized procedure.

The amortization deductions actually figured for the full replacement of fixed capital is paid to the institutions of the USSR Srobybank and the USSR Gosbank regardless of the total payments envisaged by the plan.

21. The associations and enterprises, and with centralized payments, the ministries and other managerial bodies, during the month pay amortization deductions to the banking institutions on the dates stipulated in Point 9 of the current instructions. Here the total to be paid during the month is determined considering the amortization deductions shown in the bookkeeping reports and included from the start of the year through the report month inclusively.

The associations and enterprises pay to the banking institutions for financing capital investments the amortization deductions earmarked for the full replacement of fixed capital, with the exception of that portion which, in accord with the established procedure, is to be transferred to the production development fund and to repay bank loans previously received for construction, technical reequipping, reconstruction and expansion of operating enterprises.

22. The total amortization deductions to be paid to the banking institutions by the associations and enterprises for the financing of their capital investments are determined in the bookkeeping report as the difference between the entire total of figured amortization deductions earmarked for the financing of capital investments and the total transferred to the accounts of superior bodies.

23. The total amortization deductions to be paid to the banking institutions under centralized procedures are set by the ministries and other managerial bodies in the bookkeeping report submitted by them by totaling the total amount of amortization deductions for the full replacement of fixed capital:

a) The actually figured and payable amounts for the financing of capital investments for the associations and enterprises which do not have capital investments and fully pay these amortization deductions to the corresponding superior bodies;

b) The actually figured amounts by the remaining associations and enterprises minus the amounts to be paid on the spot for the financing of their capital investments and transferred to the appropriate bodies.

24. The amortization deductions paid above the actually figured amounts are held during the year on the account of the regular payments of amortization deductions, and can also be sent to cover an underpayment of other internal funds.

The actually calculated and paid amounts of amortization deductions during the current year are not returned.

25. The payments of amortization deductions at the end of the year are recalculated by the institutions of the USSR Stroybank and USSR Gosbank in a centralized procedure for the ministry, department and administration (department) of the executive committee of the soviet as a whole.

The recalculation is made on the basis of the bookkeeping reports submitted by the ministries, departments and administrations (departments) of the executive committees of the soviets to the banking institutions; these reports are compiled from the data of the summary annual reports which provide for the following indicators:

- 1) The underpaid total of amortization deductions at the beginning of the report year;
- 2) The total of the amortization deductions calculated for the report year to be paid to the banking institution;
- 3) The amortization deductions actually paid during the report year (including the totals paid to the banking institutions in the new calendar year on the basis of instructions from banks for uncontested collection or the orders of economic bodies issued in the previous year);
- 4) The total of the amortization deductions paid above the owed or the underpaid amount at the end of the report year.

The total amortization deductions underpaid during the previous year are to be paid to the banking institution within 10 days after the date of

submitting the summary annual report of the ministry, department, administration (department) of the executive committee of the soviet, and these amounts are reserved.

The total of the underpayment is repaid through centralized procedures by the ministries, departments, administrations (departments) of the executive committees of the soviets or upon their instructions by other managerial bodies, associations and enterprises.

In the event of the nonreceipt of the total underpayment on the established date, the banking institutions may collect without contest the owed amounts from the accounts of the ministries, departments, administrations (departments) of the executive committees of the soviets, or from the accounts indicated by them of the other managerial bodies, associations and enterprises.

36. The institutions of the USSR Srobybank and USSR Gosbank return the amortization deductions paid during the year above the actually calculated amounts to the ministries and departments of the USSR with the permission of the USSR Ministry of Finances, and to the Union-republic and republic ministries with the permission of the ministries of finances of the Union republics, and to the administrations (departments) of the executive committees of the soviets upon permission from the financial bodies.

The return by the institutions of the USSR Srobybank and the USSR Gosbank of the amortization deductions paid above the owed for the ministry, department, administration (department) of the executive committee of a soviet as a whole is carried out within the limits of the balance of funds for capital investments not used at the end of the current year.

The USSR Srobybank and the USSR Gosbank inform the USSR Ministry of Finances of the total amortization deductions to be returned, while the republic bank offices inform the Union republic ministries of finances, and the oblast, kray and city bank offices inform the appropriate financial bodies.

The totals to be returned to the ministries, departments, administrations (departments) of the executive committees of the soviets are entered by the bank institutions on the account of payments of amortization deductions provided for by the financing plans of these ministries, departments, and administrations (departments) of the executive committees of the soviets during the current year.

In the absence or with a shortage of unused funds for capital investments, the ministries, departments and administrations (departments) of the executive committees of the soviets inform the appropriate financial bodies of the amounts to be returned simultaneously with the submission of the annual reports for their review.

Calculations for Payments of Money in the Production Development Fund

27. The money in the production development fund of the associations and enterprises, the ministries and other managerial bodies is kept on separate accounts (No 171 at the institutions of the USSR Srobybank and No 741 at the institutions of the USSR Gosbank) in those banking institutions where the financing and crediting of the capital investments for the sector's enterprises is carried out.

28. The transfer of money in the production development fund from the payment accounts to the individual accounts opened for the keeping of this money is carried out in the amounts and on the dates established by Point 9 of the current instructions.

The designated funds are transferred proceeding from the actually made deductions into the production development fund on the basis of the bookkeeping report submitted by the bank institutions. Section III "Money of the Production Development Fund" of the bookkeeping report is filled out quarterly. The totals of the surplus or lacking money for the production development fund are determined considering the expenditure from the payment account of money in the designated fund from the start of the year through the report period, inclusively.

The untransferred amounts of the money from the production development fund are deposited on separate accounts in the banking institutions simultaneously with the regular payments, while the surplus transferred amounts are entered on the account of pending payments.

The accrued but nondeposited money of the production development fund is collected by the banking institutions from the payment accounts of the associations and enterprises, the ministries and other managerial bodies in an uncontested procedure, in accord with Point 13 of the current instructions.

29. The money of the production development fund earmarked for the financing of capital investments is transferred upon order of the associations and enterprises, the ministries and other managerial bodies from the separate accounts at the banking institutions where the money is kept to the accounts for financing funds on the 10th, 20th and 28th of each month in an amount of at least one-ninth of the total provided by the plan for capital investment financing for the quarter.

With the failure of the associations and enterprises to submit the orders on the established dates, the transferral of money in the designated fund from the separate accounts where it is kept to the accounts for internal funds is carried out by the banking institutions on the basis of the capital investment financing plans upon instructions of the credit department in an amount of at least one-ninth of the planned total of the payment of this money for the quarter.

30. The money of the production development fund which is not used for financing the capital investments of the current year is not to be confiscated and is entered in the following year against the planned transferrals of this fund to the account for capital investment financing. If money for the production development fund is not envisaged in the capital investment financing sources of the subsequent year (or is set in smaller amounts than the balances), the money of this fund which is unused in the previous year is transferred on the basis of payment authorizations of the associations and enterprises to separate accounts where it is kept. The transferral is carried out on the basis of reports on funds obtained and deposited for capital investment financing and other measures. These reports are submitted by the banking institutions at the beginning of January of the new year, prior to the completing of the final turnovers. In the designated reports, the associations and the enterprises, on the basis of data from analytical accounting, indicate the total amount of the money of the production development fund paid for the financing of state capital investments and the unused balances of this fund entered on the accounts for the financing of capital investments in the banking institutions at the year's end.

31. The transferred money of the production development fund for the financing of capital investments is shown in the accounting and reporting of the economic bodies as the expenditure of the designated fund.

The transferral of money of the production development fund from the accounts where it is kept to the accounts for internal funds of the association and enterprise is shown in the accounting as a debit of account 87 in accord with account 54 for subaccount No 1 on the basis of copies from the banking institutions.

Calculations for the Payments of Money in the Fund for Sociocultural Measures and Housing Construction and Other Uncentralized Sources

32. Money from the fund for sociocultural measures and housing construction earmarked for the financing of capital investments is kept by the associations and enterprises (with the exception of the sovkhoses and other state agricultural enterprises transferred to full cost accounting) in separate accounts at the institutions of the USSR Srobybank (balance account No 173) and in the institutions of the USSR Gosbank (balance account No 746). The amount of money in the fund for sociocultural measures and housing construction destined for the financing of capital investments is provided in the expenditure of estimates for the designated fund (form No 40-TP of the Standard Procedure for the Elaboration of the Tekhpromfinplan [Technical, Industrial and Financial Plan] for Industrial Operations or Analogous Forms for Other Types of Activities). A copy of the estimate of expenditures for this fund is submitted to the banking institutions in which separate accounts have been opened on the dates established for the approval of the industrial (construction, economic) and financial plan.

33. The transfer of money to the separate accounts at the banking institutions is carried out within the amounts and on the dates stipulated by Point 9 of the current instructions.

Section IV "Money for the Fund for Sociocultural Measures and Housing Construction" in the bookkeeping report is filled out by the associations and enterprises quarterly. An adjustment (increase or decrease) in the total amount of the fund for sociocultural measures and housing construction to be transferred to the separate accounts at the banking institutions is carried out proceeding from the proportional amount of the money in this fund earmarked for the financing of capital investments in the total amount of accruals of the fund in the year being planned, as well as considering the expenditure of money from this fund from the payment account since the start of the year through the report period, inclusively. The untransferred amounts of the money in the designated fund are deposited on separate accounts with the banking institutions simultaneously with the regular payments, and the surplus transferred amounts are entered as pending payments.

The accrued but undeposited money of the designated fund is collected by the banking institutions under the proceedings established by Point 13 of the current instructions.

34. The money of the fund for sociocultural measures and housing construction earmarked by the associations and enterprises for financing the construction of housing and cultural-service projects during the current year is transferred upon authorizations of the associations and enterprises from the separate accounts at the banking institutions where this money is kept to accounts for internal funds on the 10th, 20th and 28th of each month in an amount of at least one-ninth of the total provided by the capital investment financing plan for the quarter.

If the associations and enterprises do not submit authorizations on the established dates, the transferral of the money of the designated fund from the separate accounts where it is kept to the accounts for internal funds is carried out by the banking institutions on the basis of the capital investment financing plans upon instructions of the credit department in an amount of at least one-ninth of the planned total payment of this money for the quarter.

35. Money of the fund for sociocultural measures and housing construction which has not been used for the financing of capital investments in the current year is not to be confiscated but is entered in the following year against the planned transferrals of this fund on the accounts for capital investment financing. If money from the fund for sociocultural measures and housing construction is not provided in the sources for financing capital investments in the following year (or is provided in smaller amounts than the balances carried forward), the money of this fund which is not used in the previous year is transferred on the basis of payment authorizations of the associations and enterprises to individual accounts where it is kept.

The money is returned on the basis of statements on funds received and deposited for the financing of capital investments and other measures; the statement is submitted to the banking institutions at the beginning of January of the new year, before the end of the final turnovers.

36. The amounts of the fund for sociocultural measures and housing construction transferred for the financing of capital investments are shown in the accounting and reporting of the economic bodies as the expenditure of the designated fund.

The transferral of the portion of money of this fund earmarked for the financing of capital investments from the accounts at the banks where the money is kept to accounts for internal funds of the association and enterprise is shown in the accounting as a debit against account 87 in correspondence with account 94 for subaccount No 6 on the basis of copies from the banking institutions.

37. The money of other uncentralized sources provided in the plans for the financing of state capital investments is transferred in accord with Point 9 of the current instructions, with the subsequent recalculation for the actually accrued amounts.

The 2-percent deductions from income on the operations of motor transport and the money used in accord with the Ukase of the Presidium of the USSR Supreme Soviet of 26 November 1958 are transferred for the construction of roads on the 15th of each month in an amount of one-third of the quarterly plan.

The money earmarked for capital construction from the fund for the strengthening and expansion of the farm, the fund for sociocultural measures and housing construction of the sovkhoses and other state agricultural enterprises which have been converted to full cost accounting are transferred from the payment account directly to the account for internal funds at the beginning of the quarter in the amount provided for the current quarter.

38. The associations and enterprises for which the financing plans provide uncentralized sources submit to the banking institutions monthly bookkeeping reports on the amounts of the accrued uncentralized sources on the dates set for the submission of balance sheets.

Calculations for the Payment of Money from Other Sources

39. Money from other sources of the associations and enterprises provided by their annual capital investment financing plans is deposited with the institutions of the USSR Srobybank and the USSR Goshbank as they actually accrue on the dates established in Point 9 of the current instructions.

40. The associations and enterprises in the bookkeeping reports which are submitted monthly to the banking institutions indicate the total of money received from other sources to be deposited for the financing of capital investments.

41. Money from other sources deposited for a year above the obtained amounts, with the agreement of the associations and enterprises, can be channeled to cover undeposited amounts from other sources.

At the end of the year, the banking institutions do not recalculate these funds.

Control Over the Prompt Receipt of Internal Funds

42. Control over the prompt transferral of internal funds for the financing of capital investments by the associations and enterprises as well as the proper use of the money is exercised by the ministries, the departments and other managerial bodies and by the financing institutions of the USSR Stroybank and the USSR Gosbank.

43. The plan for attracting the internal funds of the economic bodies earmarked for the financing of capital investments is determined by the institutions of the USSR Stroybank and the USSR Gosbank on the basis of the financing plans according to the following sources: Profit, amortization deductions, money of the production development fund and the fund for socio-cultural measures and housing construction, uncentralized sources and money from other sources. The fulfillment of the plan is determined from the accounts of internal funds or from the bookkeeping reports.

44. The institutions of the USSR Stroybank and the USSR Gosbank:

a) Exercise daily control over the prompt and complete depositing by each economic body of the internal funds earmarked for the financing of state capital investments. For these purposes, together with the associations and enterprises, they draw up monthly schedules for the receipt of the internal funds and keep track of their fulfillment.

b) For each construction project, association and enterprise they review the course of carrying out the plan for the depositing of internal funds not only as a whole but also for each individual source. Together with the economic bodies, they elucidate the reasons for the underfulfillment of the plan, and take measures to quickly eliminate underpayment and to ensure the prompt and complete receipt of internal funds within the limits set by the plan;

c) They apply the established credit and payment measures against associations and enterprises which systematically commit underpayment of the internal funds.

d) They provide for the receipt of bookkeeping reports at the designated times dealing with the amounts of the calculated (accrued) amounts of internal funds to be transferred for the financing of state capital investments as well as on their distribution. They check the conformity of the amounts given in the reports for deposited internal funds to the banking data, and in the necessary instances, also other indicators given in the

reports. They collect without contest from the payment accounts of the associations and enterprises, the ministries and other managerial bodies the internal funds accrued according to the report balances and earmarked for the financing of capital investments, as well as the amounts designated in the bookkeeping reports but not deposited with the banking institutions at the stipulated dates.

45. The banking institutions which service interfarm enterprises (organizations) exercise control over the prompt transferral of internal funds on the basis of the financing plans and the data of the bookkeeping reports.

With an underpayment of internal funds by the interfarm enterprises and the participating farms to the accounts for the funds of the interfarm enterprises for capital investments, the institutions of the USSR Gosbank investigate the reasons for the incomplete receipt of these funds, and take measures to fulfill the plan, informing the superior agricultural bodies of this, when necessary.

In those instances when the funds accrued according to the balance and earmarked for capital investments are not deposited by the interfarm enterprises to the accounts for the financing of capital investments, but are used in circulation, the banking institutions reduce by the appropriate amount their long-term credit provided for this purpose.

46. The administrations (departments) for sectorial financing and crediting of the USSR Shtroybank and the USSR Gosbank, the republic offices and the other banking institutions should provide a prompt check on the correctness of the capital investment financing sources by the ministries and other managerial bodies in terms of the subsidiary associations and enterprises.

In carrying out the designated work, it is essential to selectively check the following:

- 1) The conformity of the total internal funds broken down by sources and going to finance capital investments in the financing plans to the totals planned in the income and expenditure balances (the financial plans) of the associations and enterprises, the ministries and other managerial bodies for this purpose;
- 2) Whether provision is made to pay profit deductions for the financing of capital investments for the enterprises and organizations which operate at a loss, at a planned loss or in reduced amounts from the organizations which operate well;
- 3) The correctness of planning and accruing amortization deductions for the full replacement of fixed capital for that portion to be paid for the financing of capital investments; whether in the calculations of the associations and enterprises, the ministries and other managerial bodies provision has been made for an overstating and understating of the amounts of amortization deductions due to the incorrect calculating of the average value of the

fixed capital in operation, the value of property being withdrawn, the value of fixed capital in temporary operation or in operation but not transferred to the balance sheet of basic operations. In the analysis it is essential to be guided by the amortization deduction rates for the fixed capital of the Soviet national economy as approved by the Decree of the USSR Council of Ministers and the Regulation Governing the Procedure for the Planning Accrual and Use of Amortization Deductions in the National Economy as approved by the USSR Gosplan, the USSR Gosstroy, the USSR Ministry of Finances, the USSR Gosbank, the USSR Srobybank and the USSR TsSU [Central Statistical Administration];

- 4) The composition of the noncentralized and other sources provided in the financing plan and the correctness of setting their amounts;
- 5) Whether provision is made in the financing plans for budget funds to be paid to the associations and enterprises, while in accord with the income and expenditure balances (the financial plans) they should pay the internal funds to the centralized accounts of the superior organizations.

In disclosing instances of the incorrect planning of internal funds to be used for the financing of capital investments, the administrations (departments) of the USSR Srobybank and the USSR Gosbank, the republic offices and banking institutions are to require from the bodies approving the plans that the appropriate changes be incorporated in them.

Wage Groups in Construction

Moscow EKONOMICHESKAYA GAZETA in Russian No 26, 1980 pp 6-7

[Explanation on the procedure for increasing wage and salary groups for leaders of construction-installation organizations when the plan of which the amount of technical reequipping and reconstruction of operating enterprises is 50 and more percent; approved by the USSR State Committee for Labor and Social Questions and the AUCCTU on 29 November 1979]

[Text] The Decree of the CPSU Central Committee and the USSR Council of Ministers of 12 July 1979 No 695 (Point 39 "c") provides that the construction-installation organizations where the planned amount of work for technical reconstruction and reequipping of operating enterprises is 50 percent and more are to be put in one group higher in terms of the wages of the leading workers, while at the construction-installation organizations of the first group, the salaries of these workers are to be increased by 10-15 percent.

Because of the requests received the USSR State Committee for Labor and Social Questions [USSR Goskomtrud] and the AUCCTU provide the following explanation:

1. The decisions to classify construction-installation organizations one group higher in terms of the wages of the leading workers in comparison with the group set according to the current indicators and to increase the salaries of leading workers by 10-15 percent in the construction-installation organizations of the first group are taken by the USSR ministries and departments and by the Union republic councils of ministers depending upon the affiliation of the construction-installation organizations.

2. The USSR ministries and departments and the Union republic councils of ministers set the overall amount of the increase (within the limits of 10-15 percent) for the salaries of leading workers in the construction-installation organization as a whole. The money of the wage fund for increasing the salaries of leading workers of a construction-installation organization is figured proceeding from the overall amount of the rise in the salaries and their average salaries (within the minimum and maximum salaries).

3. The increase in the actual salaries is carried out in the following procedure:

1) For the manager of a trust (for the chief of a construction administration, a housing construction and rural construction combine operating with the rights of a trust), for the chief of a construction-installation administration or an organization equivalent to it, for their deputies, the chief engineer, the chief bookkeeper (the senior bookkeeper with the rights of a chief bookkeeper), and for the chief of the legal department (bureau), by the superior organization within the total amount set for the construction-installation organization as a whole;

2) For the other leading workers of a construction-installation organization the salaries for whom are set depending upon the wage group, by its leader within the calculated amounts for these purposes minus the amounts sent to increase the salaries of the leading workers the raise for whom is provided by the superior organization. Here the rise in the salaries for this category of employees can be differentiated (within from 10 to 15 percent).

4. The total rise in the actual salaries of the leading workers is not included in the subaccount of the wage fund calculated for the average salaries of the salary system within which the salaries of the engineers, technicians and white collar personnel of the construction-installation organization are set.

5. The designated rise in the salaries of leading workers is carried out within the limits of the planned wage fund of the construction-installation organization and the allocations for the support of the managerial personnel as set for the ministry and department.

Cost Accounting Relations in Supply

Moscow EKONOMICHESKAYA GAZETA in Russian No 26, 1980 pp 7-8

[Basic Provisions on the Establishing of Cost Accounting Relationships by the Soyuzglavsnabsbyts with the Territorial Material-Technical Supply Bodies and the Self-Financing Bodies of the Ministries and Departments; approved by an order of the USSR Gosnab of 30 July 1979]

[Text] 1. The soyuzglavsnabsbyts [all-Union main administrations for supply and marketing] carry out their activities on the basis of cost accounting and under the conditions of the new system of planning and economic incentive.

The soyuzglavsnabsbyts from the income earned fully cover the expenditures for their running, and also compensate the territorial material and technical supply bodies for expenditures on subsorting of the products with inter-republic (interregional) warehouse deliveries under the plans of the soyuzglavsnabsbyts, and obtain a profit in an amount necessary for forming the economic incentive funds and budget payments.

The soyuzglavsnabsbyts are to be provided with their own working capital.

In the process of their operations, the soyuzglavsnabsbyts enter into independent relations with the territorial material and technical supply bodies and the self-financing bodies of the ministries and departments.

The cost accounting relations between these bodies are set for the purposes of improving the supply of the national economy with production and technical products, ensuring the fulfillment of the quotas and obligations for delivering products in accord with the concluded contracts by the production associations, industrial enterprises and supply-marketing organizations, for the rational use of material resources, as well as for increasing the effectiveness with which the soyuzglavsnabsbyts, the territorial material and technical supply bodies and the self-financing bodies of the ministries and departments carry out the functions entrusted to them. Economic incentives and reciprocal material responsibility for the results of their operations are the basis of the cost-accounting relations of these organizations.

2. The cost accounting relations of the soyuzglavsnabsbyts with the bodies indicated in Point 1 are regulated by the Regulation Governing the Deliveries of Production and Technical Products, by the Special Delivery Conditions, by the Orders and Instructions of the USSR Gosnab, and by the other enforceable enactments.

3. The establishing of self-financing relations between the soyuzglavsnabsbyts and the territorial material-technical supply bodies should be aimed at carrying out the following tasks realized by them in their interaction:

1) Setting and establishing the demand of the enterprises and organizations for production and technical products according to the product range of the USSR Gosnab;

2) Establishing rational economic ties between suppliers and consumers, including direct long-term ties;

3) The implementing of the material and technical supply plans;

4) Ensuring the carrying out of the delivery plan, including to other economic regions of the nation and for exports, and control over the observance of state delivery discipline;

5) Carrying out measures to bring above-norm, surplus and unused material resources into economic circulation;

6) Control over the rational use and storage of the products, over the state of stocks at the consumers and at the enterprises for the delivery of products within the system of the USSR Gosnab.

4. The soyuzglavsnabsbyts and the territorial material-technical supply bodies bear reciprocal material liability as provided for by the current legislation.

5. The territorial material and technical supply bodies transfer to the soyuzglavsnabsbyts a portion of the income received from their subordinate supply and marketing organizations from the consumers for their work of ensuring the delivery of the products to the consumers and to the enterprises for the product deliveries located in the area of the territorial bodies. With the inability to deliver the products, the payments to the soyuzglavsnabsbyts are reduced correspondingly to the amount of incomplete deliveries. The amounts and procedure for the payments are set by the USSR Gosnab.

The soyuzglavsnabsbyts compensate the territorial material-technical supply bodies for their expenditures on the subsorting of the products with inter-republic (interregional) warehouse deliveries under the plans of the soyuzglavsnabsbyts. The amount and procedure of the compensation for the designated expenditures are set by the USSR Gosnab.

6. With the delivery of products at prices c.i.f. the station of the consignee with the payment being handled through the territorial supply and marketing organizations, the soyuzglavsnabsbyts regulate the results in terms of the rate differences in the procedure set by the USSR Gosnab with the agreement of the USSR Gosbank.

7. For the sale by the soyuzglavshabsbyts of surplus and unused products which are not used in the planned procedure within the region, the territorial material-technical supply bodies and their organizations turn over to the soyuzglavsnabsbyts 50 percent of the received remuneration for the services involved in selling these products.

8. The cost accounting relations of the soyuzglavsnabsbyts with the all-Union industrial associations are determined in accord with the current legislation and the contracts concluded by the administrations of the associations. The soyuzglavshabsbyts work out the contractual conditions proceeding from the appended Sample Contract.*

On the basis of the concluded contract, the administration of an association assumes the obligations of manufacturing the product in the volume and assortment agreed upon with the soyuzglavsnabsbyts, while the soyuzglavsnabsbyts promises to sell these products.

The soyuzglavsnabsbyt and the association administration, under the conditions provided in the contract, take measures to satisfy the demand of the national economy for the products of the range assigned to them, and for this:

- a) They jointly ascertain and study the demand of the national economy for the products of the sector;
- b) Provide the manufacturing and marketing of the product of the association's range and the increasing of the production of scarce products;
- c) They carry out measures related to the manufacturing and sale of new types of products as well as the removing of obsolete products which are not in demand from production;
- d) They provide for the organizing of rational economic ties, the broadening of direct long-term ties and their stability;
- e) They carry out measures to ensure the observance of state delivery discipline, the fulfillment of the quotas and obligations by the production associations and enterprises for the product deliveries in the quantity, assortment and dates stipulated by the contracts.

9. In accord with the tasks and conditions stated in Point 8 of the current general provisions, the soyuzglavsnabsbyts can enter into cost accounting relations with the self-financing bodies of the fund-holding ministries and departments.

10. At the soyuzglavsnabsbyts, for the purposes of supervising the fulfillment of the contractual obligations to supply the national economy with the products, accounting is organized for the fulfillment of the product

*The text of a sample contract has been published in the book:
"Sovershenstvovaniye Khozyaystvennogo Mekhanizma. Sbornik Dokumentov"
[Improving the Economic Mechanism. Collection of Documents], Moscow, Izd-vo Pravda, 1980, pp 210-214.

delivery plans for each all-Union industrial association with which a contract has been concluded.

The functions and liability of the corresponding subdivisions and specific employees of the *soyuzglavnabzbyts* in carrying out the contracts are determined by the *soyuzglavnabzbyts* in the regulations governing the various departments and in the job instructions.

Payments Between Clients, Suppliers

Moscow *EKONOMICHESKAYA GAZETA* in Russian No 26, 1980 p 8

[Instructions of the USSR Stroybank on the Procedure for Handling Payments Between Clients and General Suppliers for the Installation of Completely Delivered Equipment for Construction (11 April 1980)]

[Text] The USSR Stroybank has approved with the USSR Gosplan the payment procedure between clients and general suppliers for work involved in the installation of completely supplied production equipment, production lines, units, mechanization, automation, control and inspection equipment, when the general supplier has assumed the obligation to install this equipment in accord with the Decree of the CPSU Central Committee and USSR Council of Ministers of 12 July 1979 No 695 "On Improving Planning and Strengthening the Effect of the Economic Mechanism on Improving Production Efficiency and Work Quality."

1. The titleholder client and the general supplier conclude a contract on the installation of the equipment, in being guided by the basic conditions for payments between suppliers and clients to pay for preassembled and installed equipment as approved by the USSR Gosplan and the USSR Stroybank of 1 September 1970, No AB-25-d/214.

The planned time for the general supplier to turn over to the client the completely installed and tested equipment is set in the contract proceeding from the time of putting the production capacity and installations into operation in accord with the title list for the construction of the enterprise.

The contract should stipulate the demands made upon the quality of installation work, the date for the client to turn over to the general supplier the construction areas and foundations, basements, industrial feeds and other support elements for the installation of the equipment, the dates for carrying out installation work, the payment procedure and the payment dates, the services of the parties (including storage of equipment), as well as material liability of the parties for the violation of the contractual obligations.

2. The general supplier may call in specialized organizations for carrying out the installation of the equipment. The contracts between the general

supplier and the specialized organizations are concluded in accord with the Rules and other normative documents on the construction contracting contracts.

3. In carrying out construction on a "turnkey" enterprise (installation, project) for the client, the general contractor has the right to assign the installation of the equipment to its general suppliers. In these instances the general supplier concludes a contract directly with the general contractor for the delivery and installation of equipment.

A credit is granted to the general contractor, to the general supplier of the equipment and to the specialized organization until the completion of the equipment installation. The crediting procedure is set by the banks.

4. The payments between the client or the general contractor with the general supplier for the installation of equipment are carried out as a whole without intermediate payments after the completion of installation and after each set of equipment has been put into operation. The basis for payment should be the reference in the account to the date and number of the statement of:

a) Acceptance of the completed (reconstructed, expanded) project for operation by the State Acceptance Commission, when the date for the completion of the installation work or the putting of equipment into service coincides with the planned date for putting the production capacity or project into operation;

b) The working commission for the acceptance and complete testing of equipment, when the date for completing installation work on the equipment is ahead of the planned date for putting the production capacity or project into operation, as well as for the acceptance and complete testing of equipment installed in accord with the technical reequipping plan.

In this instance the representatives of the general equipment suppliers are members of the state and working acceptance commissions.

Increasing Returns

Moscow SEL'SKOYE KHOZYAYSTVO ROSSII in Russian No 6, 1980 pp 2-3

[Article by O. Poteryakhin, RSFSR deputy minister of agriculture: "Increase the Return on Capital Investments into Construction"]

[Text] "The successful implementation of the great program for improving agriculture," commented Comrade L. I. Brezhnev at the July (1978) Plenum of the CPSU Central Committee, "is directly related to the organization of capital construction. Concern for the development of rural construction has now become a most important component of the party's agrarian policy."

Over the past 4 years of the five-year plan, the kolkhozes and sovkhozes of the RSFSR have used capital investments totaling 59.4 billion rubles. Large livestock complexes are being built to produce young animals, to fatten cattle and pigs, there are commercial poultry farms for producing eggs and broilers, as well as hothouse combines. Significant amounts have been invested into developing the physical plant of crop raising, feed production and mechanization.

The volumes of capital investments are being continuously increased to build housing and cultural-service facilities. In 1988 alone, many enterprises plan to complete 9.8 million m² of housing, 198,000 seats in schools, 87,000 seats in children's preschool institutions, and 146,000 in clubs. Such scope has become possible due to the strengthening of the construction design, supply and installation organizations, to the increased capacity of the construction industry of the Minsel'stroy (Ministry of Rural Construction), *Roiskholkhosstroyob'yedineniye* (RSFSR Kolkhoz Construction Association) and to improving the single-client service for construction on the kolkhozes and sovkhozes.

The increased amounts of capital investments into developing the physical plant of agricultural production have also necessitated a further improvement in the organization of capital construction and designing, and a rise in the effectiveness of each invested ruble. Correct construction planning also plays an important role. In considering the necessity of creating a firm feed supply for livestock raising, the ministry during the current year is channeling the entire increase of capital investments into strengthening the physical plant of crop raising and feed production. At a little for the republic, more than 30 percent of all the funds being channelled into production construction is to go for these purposes, and more than 40 percent in Tambovskaya and Orlovskaya oblasts and the Chuvash ASSR.

The reconstruction, technical reequipping and simultaneous expansion of the existing farms are assuming ever-greater significance. The expansion of Novosibirskaya, Tyumenskaya, Saratovskaya and a number of other oblasts indicate the high effectiveness of such a policy. Considering this, during the current year more than one-half of all the funds allocated for the development of livestock raising is planned for the expansion and reconstruction of existing livestock farms, with a simultaneous reduction in funds for the building of large complexes.

In the capital construction plans, a significant place is held by the questions of the social reconstruction of the countryside and the creating of good housing and cultural-service conditions for its workers. Around 30 percent of all the money going into capital construction is planned for these purposes. A good example of organizing construction of housing and sociocultural projects has been shown by the rural construction workers and workers of the kolkhozes and sovkhozes in Omskaya Oblast. Over the 4 years of the Tenth Five-Year Plan, here they have used 348 million rubles, and this is 135 percent of the plan, and 123 percent above the level of 1980.

Ninth Five-Year Plan. In the total capital investment volume, at present around 30 percent goes for nonproduction construction.

Due to this, the public housing over this period has increased by 41 percent. Last year alone, the people of Omskaya Oblast put into operation 242,700 m² of housing, that is 13-14 apartments per farm. While in 1976, there were 7.5 m² for each person living on a kolkhoz and sovkhoz, in 1979, the figure was already 8.7. It is essential to emphasize that as a result of improving the housing, cultural, service and production conditions for the rural workers, there has been a drop in the turnover of equipment operators and livestock raisers. In comparison with 1975, the rural population has increased by 25,000 persons, and is 37 percent of the total population of the oblast (32 percent in 1976). Over this time the army of equipment operators increased by 1,700 persons.

Significant funds are being invested into nonproduction construction by the farms of Kostromskaya, Moscow and Leningrad oblasts.

Reconstruction of existing facilities provides great advantages. Instructive experience on this level has been acquired at the kolkhozes and sovkhozes of Krasnokutskiy Rayon in Saratovskaya Oblast. Here expenditures on the reconstruction of facilities do not exceed 150 rubles per animal place and are repaid in 18 months. As a result of expanding the farms and introducing new equipment and an organization of labor, the number of head of cows in 1979 increased in comparison with 1972 by 1.55-fold, the load factor per milkmaid and milk production rose by 4.4-fold, while labor expenditures for the tending of one cow declined by almost 4-fold. This made it possible to reduce the number of employees in livestock raising by 500 persons and shift them to other areas of agriculture.

The tasks of improving capital investment effectiveness are carried out not only by determining the optimum proportions for the various uses of capital investments, but also by concentrating the investments on nearly completed projects, reducing the construction time, and promptly putting the projects into operation. And in the current year almost 80 percent of the capital investments is to go to completing construction on previously commenced projects. The chief efforts of the contracting construction organizations, the client's services, the supply organizations and the kolkhozes and sovkhozes will be concentrated in these areas.

The contracting method is the most effective one for capital construction. During the current five-year plan, around 80 percent of all the work will be carried out by this method. However, practice has shown that the construction organizations have not met the posed task, and have not been able to increase production capacity and ensure the execution of the work in the amounts stipulated for agricultural development. Thus, the RSFSR Minsel'stoy in 1977 carried out a total of 1.055 billion rubles of work for the republic's sovkhozes, and last year 1.079 billion rubles worth. In other words, the growth was just 0.2 percent, and in the nonchernozem zone, 3 percent. An analogous situation has also developed on the sovkhozes,

where the basic work is carried out by the construction organizations of Roskolkhozstroyot'yedieniye. All of this has led to a situation where the proportional amount of construction by the direct labor method in the countryside has increased annually. While in 1966, it was less than 30 percent of the total volume, it is now over 42 percent.

The greatest lag in contracting has been permitted at the large projects, where there is the possibility of concentrating the capital investments and obtaining a maximum return from them. In 1979 alone, the kolkhozes and sovkhoses failed to receive fixed capital totaling over 1.5 billion rubles from the contractors. The imbalance between the allocated funds and the capacity of the contracting organization led to a rise in the amount of incomplete construction and to the poor utilization of the capabilities of the construction industry. For example, the enterprises of Roskolkhozstroyot'yedieniye and the Minsk'stroy operate at only 70-75 percent of their capacity for prefabricated reinforced concrete, 60-70 percent for brick capacity, and 50-60 percent for carpentry work. At the same time, the kolkhozes and sovkhoses which carry out the work by the direct labor method are experiencing an acute shortage of these elements and materials.

The economy of the built buildings, installations and projects depends largely upon correct designing. In the RSFSR, more than 300 institutes under 356 ministries and departments are engaged in this. Such lack of centralization does not make it possible to carry out a uniform technical policy and impedes the introduction of advanced achievements into agricultural practices. The standard plans worked out by the central institutes, as a rule, are reworked on the spot in adjusting them to the local specific conditions and often with a poor technical level. The zonal institutes which are under the RSFSR Gosstroy do little to coordinate their activities with the divisions of the VASKhNIL (All-Union Academy of Agricultural Sciences (Imeni Lenin) and the other agricultural scientific research organizations, and in essence have abandoned the questions of improving the methods of agricultural production and the tending of animals and poultry.

A major shortcoming is the large number of current plans for livestock buildings. Here the same types of plans have great differences in the general dimensions. This leads to a situation where the construction industry plants on the territory of one oblast produce hundreds of types of reinforced concrete elements, windows, doors, gates and other elements. The absence of standardization in the layout and design decisions significantly impedes the complete and efficient use of the construction facilities.

The system of working out and approving the design and estimate specifications is unjustifiably complicated. As a rule, the time required under the existing standards for coordinating and approving the documents and working out the feasibility studies and blueprints extends for 2-3 years. If one considers the actual construction time, then it takes 5-7 years from the start of designing until the project is in operation, and sometimes significantly more. And then the need arises of making substantial changes in the specifications, considering the new production methods and more advanced equipment.

An important condition for improving capital investment effectiveness is a further decline in construction costs by using light and efficient elements, new production solutions, machines and equipment, as well as locating the enterprises in the immediate proximity of the water and power supply and other utilities. Merely by the rational location of large construction projects it is possible to reduce construction costs by 10-15 percent.

In a number of places, they have disregarded the question of selecting the capacity of the enterprises and production lines. For example, at the Elektorevskiy Soykhos in the Mordovian ASSR, they developed a complex for primary potato seed production. It subsequently turned out that the farm did not have the possibility of producing as much seed stock as was planned for the capacity. As a result, the plans had to be reworked and additional funds spent. Unfortunately, such instances are not isolated.

We would also like to draw attention to the necessity of shortening construction times. The delayed completion of projects involves frozen fixed capital and the failure to obtain a significant amount of agricultural product. For example, a 1-year delay in completing a hothouse complex with an area of 6 hectares leads to a shortfall of 2.5 million rubles of agricultural product; for a dairy complex with 800 cows the figure is 900,000 rubles; for a poultry farm with 500,000 layers it is 15-16 million rubles. Just 1 hectare of improved pasture which is not completed on time leads to a shortfall of 400 rubles for the agricultural product. And in order that this does not occur, there must be coordinated efforts by the clients, the designers, the supply and construction organizations.

The November (1979) Plenum of the CPSU Central Committee emphasized that the decisions to build production projects should be taken only after a realistic consideration of all the factors which will ensure their future uninterrupted operation, namely, raw materials, transport and manpower. But when the decision is taken, the capital investments and the material and financial resources must be allocated to the construction projects in full accord with the standards. These instructions should underlie our work when it is a question of capital construction.

Increasing Effectiveness

Moscow DEN'GI I KREDIT in Russian No 5, 1980 pp 41-42

[Article by U. Nabitayev, manager of the Kirgiz Republic Stroybank Office: "To Increase Capital Investment Effectiveness"]

[Text] In capital construction the basic task is the rapid completion and reaching of full capacity for the new production facilities in all the sectors of the national economy by improving planning, designing and organization of the construction process, by shortening the length and reducing the cost of construction. In Kirgizia, over the 4 years of the Tenth Five-Year Plan, new large industrial enterprises and shops have been put into

operation, and a large number of schools, housing, hospitals, preschool institutions and other projects has been built. Water control and reclamation construction is carried out widely in the republic. The building of light and food industry projects is going on at a rapid pace.

As is known, the task of improving capital investment effectiveness is carried out primarily in the stage of working out the design and estimate specifications. These specifications should be the basis for the production and financial planning, and play an important role in organizing construction. At the same time, the results of an analysis carried out by the republic Stroybank office have shown that the preliminary designing is often planned without proper coordination with the construction plans. As a result, the design and estimate specifications are obsolete, they are written off or large amounts of additional money must be spent on reworking them. In 1978 alone, 53,000 rubles were spent on 48 projects for correcting the obsolete plans by the Kirgizgiprostroy (Kirgiz State Construction Design) and Frunze Gorproyekt (Frunze City Design) institutes. In our opinion, closer coordination in the work of the design institutes, the planning bodies and the contracting organizations would help to prevent such negative phenomena as well as shorten the time for erecting the projects, it would improve the steadiness of the work and better its quality.

The amount of allocations needed for constructing enterprises, buildings and installations is determined on the basis of an estimate. For this reason, the correct calculating of the estimated value of one or another project is the basic prerequisite for the effective use of the capital investments, for strengthening cost accounting in the contracting organizations and for reducing the cost of the construction-installation work.

At the same time we have not reached a situation where the estimate, approved by the client and agreed upon by the contracting organizations, has become the basic, fixed document for the entire construction period. Often in the course of construction the estimated cost of the project is revised upwards.

We must also mention the necessity of improving the quality of the designs and estimates. In a number of instances the specifications are worked out very late, in a rush, and this leads to mistakes which are discovered only in the course of construction or initial operations. Their elimination leads to an extending of the time and to a worsening of construction, and often the so-called throw-away expenditures arise.

As is shown by an analysis of the financing practices for preliminary designing, the need for new capital investments is not always studied with sufficient thoroughness and the design plans in individual instances are drawn up without sufficient study. For this reason it is essential to strengthen banking control over the economic soundness of allocations on preliminary design work of future years.

The bank employees, in carrying out a more careful study of the advisability of new construction and the possibilities of reaching full capacity more rapidly, and in analyzing more thoroughly the economic effectiveness of the capital investments, could prevent irrational expenditures of funds.

As is known, a primary role is given to raising labor productivity in carrying out the posed tasks in the area of capital construction. During the current 5 years, this should provide for an increase of four-fifths of the volume of construction-installation work.

Major tasks confront the republic construction workers in the final year of the five-year plan. Some 886 million rubles of capital investments must be used, and this is 7.6 percent more than the actual volume in 1979. In order that the planned becomes a reality, it is essential to achieve a fundamental change in this most important sector of the national economy, we must wage a constant struggle against the losses of working time and materials or the stoppages of equipment and machines, and we must improve the quality of the construction-installation and finishing work.

The ways for further improving national economic management and a range of measures to improve capital investment effectiveness are provided in the Decree of the CPSU Central Committee and USSR Council of Ministers "On Improving Planning and Strengthening the Effect of the Economic Mechanism on Raising Production Efficiency and Work Quality." The economic mechanism is still more aimed at raising production efficiency and work quality and achieving high end results, and provision is made to accelerate the completion of production capacity and projects, as well as sharply reduce incomplete construction.

A rise in construction efficiency will be aided by the new system of indicators which are set in the five-year and annual plans for the appropriate ministries and construction-installation organizations. Among them are the completion of production capacity and projects, the volume of commodity construction product, the growth of labor productivity and a number of others. Among them the most important will be the indicator for the volume of commodity construction product or the value of the construction-installation work carried out at the complexes and projects which have been turned over to the client and which are fully ready to produce products and provide services. This indicator, along with the quota for putting capacity and projects into operation and for the growth of labor productivity and profit, will be used to judge the operating results of the construction organizations and for forming the economic incentive funds. This system of indicators directs the construction workers to achieving high final results, and will make it possible to more objectively assess the work of each construction collective.

The design organizations must now work out the plans and estimates not for the entire enterprise but rather for its first stage when the construction time for the enterprise is over 2 years. Simultaneously with the construction of the first stage, the subsequent stages should be designed so that

the design and estimate specifications be drawn up prior to the start of construction on these stages. The planning documents should provide data on the demand for materials, structural elements, and products. The estimated cost of construction for each of the stages is set within the limits of the overall estimated construction cost of the enterprises, and this is set in the feasibility study. Over the 5-year period, stable estimate prices are to be maintained and this means a stable base for planning the capital investments and strengthening the cost accounting in construction.

In 1981, there are plans to complete the conversion to payments between the clients and contractors for fully complete construction and for enterprises and projects put into operation according to the estimated value of the commodity construction product.

The banking institutions in the republic have checked definite preparatory work on carrying out the designated decree. In 1980, a conference was held with the representatives of the republic ministries and departments on the question of carrying out the measures stemming from the designated decree. In particular, the conference took up the elaboration of measures to introduce payments between the clients and contracting organizations for fully complete and operating enterprises, nearly completed complexes, stages and projects ready to produce products and provide services using the estimated cost of the commodity construction product; on payments between the clients and the design organizations for fully complete and client-accepted plans for the building of enterprises, nearly completed complexes, stages and projects, as well as between clients and general suppliers for the supplied or installed set of equipment as a whole.

On the basis of the elaborated measures, the banking institutions, along with the clients and contractors, have drawn up a schedule for introducing these forms of payments so that at least 50 percent of the production-end construction projects will be converted to the designated forms of payment by the year's end.

The planning and economic bodies and the banking institutions gave most serious attention to drawing up the plans for 1980, the final year of the 10th Five-Year Plan, and to working out the projections for the next 11th Five-Year Plan. The banking institutions, in analyzing the financial plans of the ministries, the departments, associations and enterprises, examined and determined the conformity of the financial plan indicators to the indicators of the plans for financing capital investments in terms of the contribution of internal funds for these purposes, as well as the amount of money from the production development fund and the fund for sociocultural measures earmarked for the financing of capital investments and to be deposited with the bank, as well as the money required to repay the long-term loans. The discovery of reserves for improving efficiency and quality was the basic direction of this work.

The practical implementation of the planned measures to improve the economic mechanism requires an increased level of economic work from the Stroybank employees, an improvement in financing, crediting and payments in construction, a strengthening of the effect of the financial and credit levers on accelerating the completion of capacity, an improvement in the economic and financial operations of the contracting organizations, as well as the mobilization and use of construction reserves.

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CONSTRUCTION

ARTICLE SERIES PROBES STANDARD NET OUTPUT

Thesis Presented

Moscow MOSKOVSKAYA PRAVDA in Russian 6 Mar 80 p 2

[Article by Candidates of Economic Sciences F. Potapenko, economic planning administration chief of the Glavmospromstroymaterialy, and V. Kovalenko, "Mosorgstroymaterialy" technical design bureau deputy director: "What Does NChP Provide?"]

[Text] In accordance with the party and government decree "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality," ministries and departments, associations and enterprises, have planned and are already implementing a thorough restructuring of that mechanism. In particular, we are preparing to change over to the new system of economic indicators. First in this system of indicators will be standard net output (NChP), on whose basis production volume, labor productivity and the wage fund will be planned in industry. Many of our readers working in the area of material production and responding to the "Reader and Newspaper" questionnaire have requested a more detailed discussion of the concrete experience of enterprises in the capital which have been working for a number of years now using this indicator. In response to this desire, we begin today a discussion of Moscow construction industry experience with the NChP indicator. The first article is devoted to analyzing the overall results of NChP use in the Glavmospromstroymaterialy [Main Administration of Building Materials and Structural Parts Industry of the Mosgorispolkom] during the first four years of the 10th Five-Year Plan.

Standard Net Output (NChP) was instituted at enterprises of our main administration four years ago. As of 1 January 1976 the prefabricated reinforced

concrete branch, consisting of 24 enterprises at which 20,000 people worked, was transferred to this indicator, and with the concurrence of the USSR Gosplan, NChP has been used continuously since 1 January 1978 for planning and evaluating the activity of all main administration associations and enterprises. The aim of the experiment was to reveal the potential for planning production volume in indicators which excluded the use of embodied, "outside" labor in evaluating enterprise activity and, in so doing, to stimulate their own contribution to increasing production efficiency.

The goal of the experiment was to answer whether it was appropriate to use NChP instead of "gross" in planning and evaluating overall production volume and labor productivity in cost terms and what would be the result of planning and evaluating prefabricated reinforced concrete production volume in conventional physical cubic meters instead of in actual physical meters.

NChP is essentially newly created value comprised of wages, additions to wages, and profit. The economic thought behind this indicator is that it reflects the true contribution of a given enterprise to the production of a particular product. As distinct from "gross," it does not take into account the cost of raw and other materials and assembly components, that is, everything which is the result of labor at other enterprises.

Prefabricated reinforced concrete industry was chosen for the first stage of the experiment not just because it is the leading branch in the main administration. The shortcomings of the then existing planning system were more clearly evident here than in any other branch. Moreover, this branch is closely linked to construction and directly influences the time involved in putting up projects, the quality of the projects, and the labor productivity of construction workers.

During the preparatory period, primary attention was focused on working out methodology, developing net output standards and complexity factors for reinforced concrete product manufacturing, on personnel preparation and training. Annual plans were approved for NChP production volume and prefabricated reinforced concrete structures production volume in conventional physical cubic meters for the prefabricated reinforced concrete main administration as a whole and for each enterprise. They were also communicated to shops producing the end product. NChP was included among the basic indicators for awarding bonuses to supervisory and engineering-technical workers.

From the very start, we also viewed the experiment as an important means of raising the level of all economic work at the enterprises. During their operation using the new indicators, the enterprises of just this branch have transferred 170 brigades and shifts to cost accounting, which has saved 800,000 rubles worth of raw and other materials over the past four years. Personal economy accounts were instituted and enterprise collective social development plans were prepared for the five-year plan. Many enterprise economic services engaged in the experiment actively and creatively, the best among which were economists of the No 2 ZhBK [reinforced concrete products combine] (chief economist, Ye. Miroshkina) and the No 9 Kuznetsk combine (chief economist, R. Ol'khovenko).

And what have the results of the experiment been?

During the four years NChP has been used, production efficiency indicators have risen significantly in the Glavmospromstroymaterialy. For the main administration as a whole, NChP production volume has risen 23.1 percent during these four years, given a plan for 20.3 percent; labor productivity has risen 20.4 percent, given a plan for 18.2 percent. We have saved the labor of 12,400 workers. Average wages have increased by 14.5 percent.

Profit has risen by 43 percent. About nine million rubles above the plan were received

The proportion of items with the Badge of Quality has increased two-fold, to 15.4 percent of total production volume.

The rate at which new items are mastered has increased two-fold. Prior to the transition to NChP, enterprises mastered an average of 150 items annually, and after the transition they mastered 700. During the four years, the mass production of 2,750 new reinforced concrete items was mastered. The task of organizing the production of a broad products list of items in the unified catalog for Olympiad-80 projects was also in fact solved largely thanks to the new indicator.

The struggle to reduce expenditures of raw and other materials became more active. Introduction of progressive components with lower labor intensiveness and stressing economy more enabled main administration enterprises to save 92,000 tons of cement, 14,000 tons of metal, 27,000 cubic meters of lumber, 690 tons of resin, 65,000 tons of conventional fuel and 86 million kilowatt-hours of electricity during the four-year period.

Output material intensiveness decreased by 15 million rubles during these four years. Products-list plan fulfillment improved appreciably, thanks to the creation of conditions under which item release does not differ in profitability. The time involved in providing construction with complete sets of fully prefabricated housing decreased correspondingly, by 10-15 percent.

Operating using NChP, enterprises continued to be concerned with reducing output labor intensiveness. Thus, the labor intensiveness of column production decreased by 7.2 percent, that of cross-bar and hollow-flooring production by six percent, and so on.

Collectives of the No 1 Beskudnikovskiy Building Materials and Components Combine, the No 9 Kuntsevskiy ZhBI [reinforced concrete products] Combine, the No 18 ZhBI Plant, wood-processing combines nos 9 and 17, the "Mosstroyplastmass" Association, the stone-processing combine, the Vyazemskiy Ore Enrichment Combine and the experimental machine shop achieved good results.

At the same time, analysis shows that by no means all production efficiency improvement opportunities inherent in NChP have been exhausted. Under the price-formation principles which have evolved, price levels continued to be

closely linked to the materials-intensiveness of production. Therefore, the first stage of NChP use was not successful in completely eliminating the influence of "outside" labor. Moreover, net output standards were individual in nature. This led to a situation in which dissimilar normatives were set for the exact same items produced by different enterprises. As a consequence, NChP amounts were unjustifiably altered when production of an item was transferred from one enterprise to another.

The CPSU Central Committee and USSR Council of Ministers decree on improving the economic mechanism solved that problem: it anticipates determining profitability in processing branches of industry by type of output as the ratio of profit not to full net cost, but deducting the cost of raw and other materials, fuel, energy, semifinished products and assembly components. With the introduction of new wholesale prices, the net output standard for the corresponding item will be determined at the same time on the basis of progressive labor intensiveness norms. This resolution creates a single basis for shaping the system of economic indicators, including prices.

With the concurrence of the USSR State Committee for Prices, the Glavmospromstroymaterialy has undertaken to develop prices and branch average net output standards which would meet the indicated demands. Using a method worked out by the "Mosgorstroymaterialy" KTB [technical design bureau] and with the participation of the Scientific Research Institute of Prices, wholesale prices and net output standards were worked out on a single basis for prefabricated reinforced and ordinary concrete output production and put together into so-called experimental price lists approved by the RSFSR State Committee for Prices. Both price lists went into effect for two years at the start of this year and cover all 49 enterprises of the prefabricated reinforced concrete branch in Moscow.

In these price lists, the profit normative was set to the total wages of industrial production personnel and depreciation deductions. Average branch net output standards were also determined; they are mandatory for and the same for all enterprises of the Moscow gorispolkom producing reinforced and ordinary concrete items.

The new method of setting prices strengthens enterprise economic interest in producing items which require less materials and creates conditions equally advantageous for producing all components.

The NChP planning experience accumulated in the main administration provides rich material for thought. The reference today is essentially not so much to the results of this experimental check of the new indicators (which speak for themselves, in our view) as to the problems of changing over on a broad scale to planning using this indicator, as is demanded by the above party and government decree.

Improvement Noted

Moscow MOSKOVSKAYA PRAVDA in Russian 27 Mar 80 p 2

[Article by A. Demidov, director of the Beskudnikovskiy No 1 Building Materials and Components Combine of the Glavmospromstroymaterialy, and D. Mezhericher, the combine's chief economist: "'Gross' Gives Way (to NChP)"]

[Text] We continue discussing the experience in using standard net output as an indicator in Moscow construction industry; the discussion was begun with the article 'What Does NChP Provide?' published on 6 March. Today, the topic is this indicator's influence on plan fulfillment for a specific products list. The authors are leaders of the Beskudnikovskiy No 1 Building Materials and Components Combine of the Glavmospromstroymaterialy.

It is generally known that the indicator gross output objectively pushes an enterprise towards disturbing the production assortment in favor of the more materials-intensive, less labor-intensive output. Inasmuch as gross output is the total outside labor (materials, fuel, energy, and so on) and own labor (wages and profit), given any difficulties arising in production, the first thought of every economic leader from foreman to director becomes to correct the situation through "profitable" output. The consequences of disrupting the assortment are well-known: various kinds of disproportions "deficits," which were justly and sharply criticized at the November (1979) CPSU Central Committee Plenum in the speech by Comrade L. I. Brezhnev. It means a chain reaction of enterprise plan nonfulfillment because someone did not deliver something; it means plan adjustments.

Standard net output eliminates differing profitability of products and therefore facilitates plan fulfillment in terms of a specific products list. Let us give some figures. In 1975, our combine failed to carry out the production products list plan by 17.4 percent in terms of number of items. After the changeover to NChP, plan nonfulfillment was 3.6, 3.0, 2.5 and 1.5 percent in 1976, 1977, 1978 and 1979, respectively. As is evident from these figures, there was a qualitative leap in the very first year after the changeover to planning using the new indicators.

Why this leap? First, the changeover to evaluating activity using NChP and conventional-physical cubic meters removed real fetters from the psychology of shop chiefs and foremen, as they both, prior to the changeover to the experiment, had a "gross" plan which had to be carried out or they would see no bonuses. On top of that, the products list is a solid mass of "petty" items in terms of actual cubic meters, even without the facings of many panels.

With the changeover to the new indicators, we clearly told the middle-link commanders that gross output would no longer exist as an indicator for awarding bonuses. It is your job to carry out the products-list plan strictly. There will be that products-list plan, there will be a plan using standard net output as the basic indicator for awarding bonuses, and there will also be a plan based on conventional-physical cubic meters. If you disrupt the assortment, the plan might not be met in terms of conventional cubic meters and in terms of NChP.

It should be noted that our Beskudnikovskiy No 1 Building Materials and Components Combine provides more than a thousand construction projects annually with sets of components and that the list of reinforced concrete products it produces consists of 800 items with 22 different facings.

Such a products list assumes a special approach to providing sites with sets of components. We are working in close contact with the "Mossbytstroyaterialy" trust and are working out the products-list plan on the basis of a so-called preliminary distribution which the trust gives us 10 days prior to the start of the planning month. The combine calculates the plan products list on the basis of this document and refines the cabinetry and facing orders on its basis.

We thus prepare to produce items next month not blindly, but fully aware of the situation.

An important element in the system of delivering sets of components is the fact that it is governed not by enterprise marketing agencies, as is ordinarily the case, but by combine production management agencies. This work procedure is well-founded. Marketing workers are generally not competent in construction technology. The production engineer, who does know it and the technology of his own production, can better plan the calendar products-list production plan. But when there is a shortage of parts for reasons not dependent on combine activity, the complete-set engineer decides how to supply subsequent-stage items which will enable builders to work without idle time.

Introduction of the new indicators thus enabled the combine to substantially improve plan fulfillment in terms of products list and to ensure precise provision of construction projects with sets of components.

Those who viewed the new indicators sceptically were inclined to think that plan fulfillment in terms of products list would have a greater influence on the sales volume indicator with consideration of meeting contract deliveries. Was it necessary, they said, to introduce NChP when we had the contract deliveries indicator?

With all due respect to this indicator, we still think that introduction of standard net output instead of gross output and of conventional-physical cubic meters instead of physical cubic meters had a greater influence on the activity of our enterprise. Prior to introduction of NChP, it was possible for a supplier to foist a products list needed by him off on a future customer. But with the equally-profitable net output normatives in effect, there is no reason for the combine to impede them in any way.

An example. At one time, the combine, along with other types of facings, used "PO" reinforced concrete slabs supplied us by the No 14 ZhBI plant. The cost of these items was made up of the price of the concrete portion of the panels -- 13 rubles 70 kopecks per square meter -- plus the cost of the facing -- 10 rubles 24 kopecks per square meter. The finished panel had a total gross cost of 23 rubles 94 kopecks per square meter.

Combine engineers worked out panel-production technology which permitted full simulation of this facing. In terms of quality, the new panels turned out to be an order of magnitude better than the old ones. However, although the labor intensiveness of their production increased, the price of the facing was set at 3 rubles 30 kopecks per square meter and the overall price per square meter was 17 rubles.

Thus, given labor intensiveness growth of approximately 10 percent, the price of the item dropped by nearly seven rubles per square meter. Had the combine been planning using gross output, the collective would clearly have looked worse in the reporting, although it did something useful to the state. With NChP in effect, the combine did not hinder those architects who wanted to dress up their buildings in this type of facing.

The indicator's "secret" is that net output standards of equal profitability are in effect at the combine. In principle, these standards can be derived by excluding from the wholesale price all material expenditures, leaving total wages and profit for a given item. However, in this instance the standards could differ in profitability due to differing proportions of profit in them. In order to prevent this, profit has been averaged among all the items produced by the combine. In order to do this, the amount of net output for the base year was applied to the basic wage of the workers; we thus obtained a wage factor for the changeover to standard net output.

Using this method, it is as if equal profit is calculated per ruble of wages in an item. Therefore, the production of any type of item at the enterprise is made profitable to an equal degree.

We should add that worker wages are also linked closely to the conventional cubic meter concept. In calculating wages, a form car of a certain capacity on the conveyors is used as the initial element, so no disputes arise on the conveyors as to replacing "profitable" form cars with "unprofitable" ones, since they are all equally profitable.

However, there are clouds in the NChP skies, and foremost in questions of net cost and profitability. We have not yet outlived concern for producing "cubics." But since the start of this year, profit in reinforced concrete plants of the capital, including our combine, has been calculated relative not to full net cost, but minus material expenditures. In so doing, "gross" has finally been driven out of evaluating the labor of collectives.

On the whole, the experiment indicates that NChP enables us to resolve more successfully the task of improving production efficiency and work quality as compared with the indicators used previously.

Tangible Gains Cited

Moscow MOSKOVSKAYA PRAVDA in Russian 11 Apr 80 p 2

[Article by O. Mikhayev: "The Burden Is Lightened"]

[Text] We continue our discussion of the experiment in using the new standard net output (NChP) indicator in the construction industry in Moscow (see the 6 Mar and 27 Mar issues). Today, the discussion is about the influence this indicator has had on mastering the production of new and progressive types of items.

There is no need to explain to readers dealing with production why the word "burden" was used in the title. They know how much effort it takes to restructure production to release a new product and how sharply labor intensiveness increases. And they know that these efforts are by no means always taken into account when shaping the wage fund. Planning "by gross" seems not to see the additional labor expenses associated with producing new and generally more complex items. "Gross" hardly reacts to these jumps in labor intensiveness and so places these enterprises mastering new items in a complex financial position.

That was the case in the Glavmospromstroymaterialy, and enterprise leaders more than once had to go to the main administration hat in hand for subsidies in such cases, and the results of these visits depended in considerable measure on diplomatic skills rather than on well-founded arguments. Plants taking up new items often failed to meet gross output plans and were left with an inadequate wage fund.

At one time, the No 2 reinforced concrete components combine had mastered the production of a new design of flights of stairs. They were better than the old design, "ate up" less materials, and saved the national economy 300,000 rubles per year. Due to the lower expenditure of raw and other materials, however, the wholesale price of the item dropped. The chain worked with precision: gross and marketed output volume decreased, labor productivity and profit decreased, and the economic incentives fund decreased.

This "burden of innovation" also hung like a Damoclean sword over the construction industry when it was faced with the necessity of quickly restructuring technological lines to produce parts for the new unified catalog series of houses and for Olympiad-80 projects. "Gross" was already holding up progress at that time, and in that situation, it would simply have imposed on the plants the burden of financial helplessness. The collectives were almost automatically among the laggards, and material incentives lose their effectiveness. Far-sighted people understood this and began looking for a way out without waiting for the noose of contradiction to squeeze even tighter.

Events pressed on and negative trends manifested themselves ever more persistently. Construction seemed to need lighter, openwork reinforced concrete components: buildings would be lighter and we would save metal, concrete and the labor of transport workers and builders. But it was not profitable for the plants to produce them. Moreover, given all their effectiveness, lightweight components and progressive materials were in...limited demand. They also turned out to be unprofitable for construction workers:

construction-installation work volume includes the cost of materials, and the more expensive metal and concrete they spend, the higher the reporting percentages, obviously. And motor transport workers as well are not interested in hauling light components: their plan is foremost in tons and ton-kilometers.

Here is a simple example of what happened in those years. Plants produced a panel with a ceramic facing. Without the facing, it cost about 20 rubles per square meter; with the facing -- 21.6 rubles. A new type of facing was developed which cost 5.6 rubles per square meter -- glass-inlay. Its use raised the cost of the finished panel by one-fourth right away. Enterprises began "competing" for this type of finish; everyone wanted to finish panels with glass-inlay (although there were few differences from the viewpoint of architectural expressiveness). The same story was repeated with the expanded production of horn-type tile, which cost more than seven rubles per square meter. Glavmosstroy [Main Administration for Housing and Civil Engineering Construction in the City of Moscow] house-building combines also thirsted for expensive facings.

But cheap facings?

The attitude towards them was entirely different. At one time, engineers of the Beskudnikovskiy combine did a good job of developing technology for producing panels which permitted fully simulating facing with expensive "PO" tile. In terms of quality, the new panels turned out to be an order of magnitude better, but...the price of items with the new facing dropped sharply, while labor intensiveness increased. "Gross" quickly set the innovators straight, and the combine very unwillingly gave its consent to produce the cheaper panels.

Standard net output put an end to such phenomena (we are not talking here about the other links of the chain, builders and motor transport workers). Enterprises are now allocated a wage fund as a measure of plan fulfillment in terms of NChP production, rather than gross output. But the dynamics of net output are close to the dynamics of actual, rather than imaginary, labor expenditures.

Here is an example of how NChP alone removes artificial barriers to new items. The Kuntsevskiy No 9 Combine mastered a progressive component, elevator shafts. If you count gross output, it accounts for 8.63 rubles per ruble of wages for the elevator shafts, but 20.92 rubles for the enclosure panels produced previously. Which item is it more profitable for the enterprise to produce in gross terms? The older one, of course: it makes it possible to obtain 2.4-fold more wages than the newer one. But if standard net output is counted, it accounts for seven rubles per ruble of wages for the elevator shafts and 6.89 rubles for the enclosure panels. So the concept of item "advantageousness" disappears.

Is it any surprise that when planning on the basis of gross, the combine was slow to up-date output? In 1973, for example, it began mastering production

of items in the unified catalog. As a result, gross output production volume decreased from 12,148,000 rubles in 1972 to 11,085,000 rubles in 1973. Economic incentive funds decreased and the combine requested a subsidy from the main administration, all of which had a perceptible effect on the awarding of bonuses to engineering-technical and other workers.

NChP made wage fund allocations fairer. Thanks to this, the Kuntaevskiy combine sharply accelerated its mastering of new, progressive and harder to manufacture types of output. During the first four years of work in the new way, it mastered 34 new items, more than 20 of which have been certified as being in the highest quality category. (Incidentally, the combine did not produce a single item with the Badge of Quality in the Ninth Five-Year Plan.) In this regard, no subsidies were required, average wages increased five percent, and additional deductions to the incentive funds exceeded 20,000 rubles per year.

One other characteristic and at first glance even paradoxical phenomenon. During the "gross" era, main administration enterprises mastering progressive items ran into debt in terms of the wage fund and still did not have enough to cover expenses. But in planning using NChP, wage funds are allocated as a measure of actual requirements, so there are no overexpenditures. To the contrary, enterprises spend less funds on wages. Previously, even with a slight product up-dating, enterprises complained of shortages of wages. Now, given rates of product up-dating twice as high, there are both enough funds and less is spent than under the "gross" system. Why?

The answer is very simple: wages are now earned in the fullest sense of the word, and are not "allocated" from the generous hands of foremen or shop chiefs. NChP has revealed unsubstantiated wage fund overexpenditures which enterprises were often guilty of previously. At the same time, people often received bonuses for "artificial" growth in production and productivity caused by the use of more expensive materials and assembly components. But now, genuine, effective labor is being repaid with interest. People are not receiving less. Their wages are constantly increasing. But today, each ruble an engineer or worker receives at the cashier's office on payday at the Beskudnikovskiy combine, for example, has provided the state with 12.3 percent more output than in 1975.

Thanks to the fact that planning is no longer a spoke in the wheels of scientific and technical progress and an unfair burden has been removed from the shoulders of labor collectives, the Glavmospromstroymaterialy has been able to resolve the two most important tasks mentioned above: changing over to producing items from the unified catalog and providing Olympiad-80 projects with the needed components and materials quickly.

NChP has also breathed life into the comprehensive product quality control system. The additional efforts by production workers, a guarantee that the quality and market appearance of the items will improve, is now recompensed by additional increases in the wage fund. The chain is again in operation, but this time in the right direction: the production of items with the Badge

of Quality has accelerated and there are now fewer payments for advertising. The volume of output with the Badge of Quality increased 5.7-fold during the past four years in the prefabricated reinforced concrete branch, for example. And, although their proportion of all branch output is still small (6.7 percent in 1979), the trend towards rapid growth is important.

Thus, NChP has permitted a sharp two-fold increase in the rate at which output is up-dated, the mastering of more progressive types of output and, in this regard, not only less blocking up of enterprise economies, but even improvement in them. Let us recall that profit for the main administration as a whole, for example, has increased 43 percent during these four years.

They are already forgetting about the economic incongruity accompanying the "gross" approach and the tribute it exacted from production workers in days gone by. This former companion on the road to innovation has been relegated to the past.

Moscow Construction

Moscow MOSKOVSKAYA PRAVDA in Russian 23 Apr 80 p 2

[Article by P. Gurin: "Why 'Unprofitable' Output Is Advantageous"]

[Text] We continue our discussion of the experiment in using the new standard net output (NChP) indicator in Moscow construction industry (see the 6 Mar, 27 Mar and 11 Apr issues of our newspaper). Today, the topic is the new indicator's influence on reducing item material intensiveness.

This plant makes panels, blocks, trusses and other components for Moscow industrial construction projects. All this is large output weighing many tons. Large amounts of cement, metal fittings and other materials are used in production each day, so saving resources is naturally among the main problems at the enterprise.

Planning the normative net output indicator has also made significant adjustments to the methods of fighting for thrift and has opened up new reserves. Planning department chief M. Kubarova says, "'Gross' evaluated our work in terms of the cost of the finished items, in terms of amount of materials used. It was in the interests of the plant to produce heavier, more expensive output. Take, for example, frame columns. Just the metal core, which is supplied us in finished form, costs 759 rubles. After it is dressed in a concrete sleeve, the plant has a finished column costing 860 rubles. And it was such items that the plan forced the enterprise to make, so to speak. Assignments on manufacturing them were constantly exceeded, while there were often breakdowns in meeting the plan for "unprofitable" output. But now, NChP takes into account only our own labor, and for us, there are no advantages in terms of high item material intensiveness or cost.

Before, it was actually hard to master new, less materials-intensive components at the plant. Profitable for the state, they were unprofitable for the enterprise. Now that the barrier set up by "gross" has been removed, the situation has been sharply altered. During the last four years of the Ninth Five-Year Plan, the plant mastered 63 new items, and during the first four years of this, the Tenth, it has mastered 300. Due to the lower materials-intensiveness of the new output, the enterprise has saved 1,050 tons of metal worth nearly a million and a half rubles.

Of course, this success was also achieved in considerable measure thanks to extensive propagandizing of leading experience by party and public organizations and by the plant leadership. But they in fact were doing this work before, too. Its effectiveness has simply intensified sharply now. The calls for improvement have been reinforced by economic incentives.

Thanks to the fact that NChP has enabled us to rid ourselves of differing item profitability, plan fulfillment in a specific products list of items being produced has also changed for the better. Previously, when overfulfilling assignments for so-called basic output, an enterprise quite often failed to meet them in other aspects. Overfulfillment was sufficient to be among the leaders. But in fact, builders need more than many parts; they need complete sets of parts: a building cannot be built using just columns or wall panels. "Profitable" components jammed the warehouses and construction sites and just sat there. But today, builders have no complaints as to the completeness of products lists being produced by the No 18 plant. There are now different demands as to fulfillment of plans in terms of delivery products lists.

Here is one thing that happened. Last November, V. Filonov's brigade in molding shop No 1 failed to meet the assignment for producing two of its four types of output. Under a "gross" evaluation, no one would have paid any particular attention to this. But now, the brigade turned out to be last in the molding shop based on results for the month.

Such cases are rare at the plant. At least no one remembers anything of the sort happening here last year. Fulfillment of all items in the products-list plan has become the indisputable rule for our brigades, and each worker understands that ensuring delivery of complete sets is also a big reserve for saving materials.

When the plant began mastering brigade cost accounting, raw material and energy resources savings indicators began growing appreciably. Cost accounting has now become a law of life for many labor collectives. They have begun achieving a considerable savings of materials. But the rates of growth in economy indicators have gradually begun slowing. Indicators have nearly stabilized in Ye. Matyunin's No 2 molding shop brigade, for example. In one year, molding shop workers here save about 200 tons of cement and almost 20,000 kw-hr of electricity. That is quite a bit, of course, but they have not been able to achieve more. Why?

Together with an assignment to produce output, each enterprise has planned for it so-called nonproductive expenses. These include losses from defects, idle equipment and others which would not occur under ideal conditions. Reducing these expenses is also saving, a large but finite reserve. If a brigade makes optimum use of the equipment entrusted to it, permits no defects and converts practically all its materials into finished products, then nonproductive expenses in its sector will be eliminated and there will be practically nothing left to economize on. Ye. Matyunin's brigade and several other plant collectives are evidently close to this level.

Other fruits of cost accounting are evident, as they say, to the naked eye. Previously, brigade leaders tried to order as much slurry as they could for the cement mixing shop, figuring that you can never have too much. Today, ordering "by eye" is an inexcusable luxury.

Another example. V. Chernov and A. Yarikov's brigades work in shifts on the fifth production line (bay) of the third molding shop. All their output passes through special steam chambers. Steaming lasts 10 hours, which is what the technology requires, so there can be no economies here. But the molding shop workers have "condensed" the time involved in readying articles for this treatment and the time involved in discharging and recharging the chambers. Equipment turnover is faster. Today, the fifth bay of the third molding shop produces six roof panels daily more than the plan.

Plant inventors and efficiency experts are being oriented skillfully towards saving resources and creative energy. For example, so-called plate tilters have now been installed in the molding shops. These simple attachments easily turn an item weighing many tons over onto any side. Previously, they had to be tilted using a crane, which is both hard and time-consuming and which always runs the risk of damaging plates which are already finished.

Incidentally, upwards of 70 percent of the enterprise's output is in the first quality category and 23 percent is certified for the state Badge of Quality.

Still, defects have not yet been eliminated completely here. What is done with substandard items? It is not possible to rework or add to them, and it is to our disadvantage to discard them. This problem has been solved by created a scrap reprocessing facility at the plant.

Plant efficiency experts do have a broad field of activity, it must be said. The enterprise is constantly being modernized. Nine of the 12 production lines have already been renovated. A new welding equipment complex was recently put into operation. A new cement unloading center was built by the 110th anniversary of the birth of V. I. Lenin and is now being readied to begin operation. It will be several times more economical and productive than the existing facility.

One other example. By using new technology for working fittings, expenditures of time on this operation have been reduced two-fold, saving about

nine percent of all enterprise electric power use. Thanks to such innovations, the plant continues to increase its production capacity constantly without needing to increase the limit on its electric power use.

The plant collective was one of the initiators of the "Work in A Leninist, Shock-Work Manner" initiative. That was quite natural. We have already exceeded the rates of labor productivity growth planned for the end of the five-year plan here. That is because they are able to work here while economizing on time, materials and energy resources, in a word, thriftily.

New Method Praised

Moscow MOSKOVSKAYA PRAVDA in Russian 6 May 80 p 2

[Article by Ye. Gurevich, manager of the "Mossbytstroymaterialy" trust: "'Others' Labor, 'Our' Indicators"]

[Text] The Glavmospromstroymaterialy was first in the city to master (in 1973) the mass production of 12-story houses of the progressive P-46, 47 and P-30, 31 series using unified catalog parts. This year, production of these buildings will already be 830,000 square meters of usable space, more than houses of any other series. Moreover, our main administration is ready to supply construction organizations of Moscow with so-called "noise-free" buildings of the new P-55 catalog series; they can be built near highways. In addition to houses in these series, the industry manufactures parts for 16-story fully prefabricated houses of the P-68 series, one modification of which is the 22-story houses of the I-580 series. We have begun supplying parts for 22-story houses of the new I-700 series, also based on the P-68. The series MP-1 frame-panel houses the industry produces for 12- to 26-story buildings are also of considerable importance in developing the city's housing.

The changeover to producing parts and components for higher houses and better-made school and kindergarten buildings using new designs and mastering the unified catalog and a new industrial frame -- all this has required of the main administration and its enterprises a sharp rise in work efficiency and quality, accelerated introduction of leading work methods, new technologies and the latest achievements of scientific and technical progress. In a brief period, enterprises mastered the production of more than 11,500 articles. A large number of parts -- about 3,000 -- were mastered for Olympiad-80 projects. Simultaneously, a system of production and set-delivery management was developed for these projects. As a result, all were provided with sets of components right on schedule.

The Glavmospromstroymaterialy as a whole supplies 2,000 to 2,200 different projects with parts simultaneously: different housing series, school buildings, kindergartens, medical treatment facilities, industrial buildings and utilities, stores and automatic telephone exchanges, administrative buildings and fruit-vegetable centers, sports facilities and movie theaters.

We hardly need explain how important it is to provide projects with sets of components and parts precisely, fully and promptly, given this huge scale of construction and this diversity of projects. Numerous plants generally participate in providing sets of components for each building being built. Coordinating and synchronizing their work so that construction brigades do not stand idle waiting for components is a very complex task which can be resolved only if "iron" discipline is achieved in carrying out products-list plans in each position by each plant on schedule.

It is here that NChP comes into play. It is now being used at main administration enterprises to plan overall production volume, labor productivity and the wage fund. NChP is output newly created in a given planning period and describes expenditures of "own" labor by the collective of a given enterprise. It does not take into account the value of "other" labor invested in materials, assembly components and services. We will not speak of all the aspects of NChP influence on production, but will examine only one: its influence on plan fulfillment in a specific products list. This indicator controls fulfillment of these plans better than other cost indicators and more strictly.

And in fact, the products list being dealt with is quite a large one. Thus, 485 different parts go into one catalog house and 412 go into one series P-68 house, and so forth. Previously, there were "profitable" and "unprofitable" parts, in terms of the plant, both with regard to cost and with regard to the labor intensiveness of their manufacture. This led to a situation in which certain parts were often in short supply, unavailable at warehouses when it was time to deliver them. Schedules were not met, deliveries were delayed.

NChP has eliminated this division of parts into profitable and unprofitable. Enterprises have stopped trying to carry out the plan by producing only materials-intensive, expensive output and are following the production products-list plan more closely. This is in better accord than ever before with the fact that recently, meeting obligations in terms of deliveries, that is, meeting complete-set delivery schedules, has been given increasing importance in evaluating enterprise work.

A majority of the enterprises have been very responsible about providing construction projects with complete sets. The Beskudnikovskiy No 1 Combine has been exemplary in this regard, as it has taken this matter very seriously. ZhBI plants Nos 3, 19 and others have been supplying parts fully and on schedule. There are lagging enterprises as well, however. Claims are still being lodged against ZhBK Combine No 2, ZhBI plants Nos 4, 20 and 21, and a number of wood-processing combines by construction workers concerning deliveries.

On the whole, however, NChP has permitted sharp improvement in the provision of projects with complete sets. Over the past five years, the time involved in providing construction projects with sets of parts has been reduced by 40 percent by industry including, for example, a 15-percent decrease in 1978.

In terms of the most important plan items, plan fulfillment level has risen from 66 to 100 percent, and the proportion of plan items carried out has risen from 67 to 95 percent.

Now about what depends on our trust. With parts now available to us in the necessary products list, our collective finds it possible to restructure the very system of providing projects with sets of these parts. We have organized special departments for providing sets of parts for catalog houses, Olympics projects and below-grade work. Special building-series groups have been created in the dispatcher service, which supervises parts delivery schedules; that has provided an opportunity to change over from supervising deliveries to regulating them. Measures are constantly being implemented to improve the system of providing complete sets of components. Especially deserving in this regard are leading workers and trust veterans N. Krylova, Z. Fatkina, V. Zotova, S. Kanatova, T. Slavutskaya, T. Kulakovaya, A. Kaufman, Z. Pankratova, G. Deyeva and many others. The party organization, headed by its secretary and chief of the Olympiad-80 department, A. Chebotareva, has played a large role: providing projects with complete sets of components, something new for it, has been kept in constant view by the party bureau.

We rejected the traditional methods and, beginning in December 1978, have been running an experiment in providing tall series P-46, 47 and P-30, 31 catalog houses with complete sets of components through the new technological set-delivery center (UTK) and its branches under advance installation-transport invoices.

The essence of the new method is as follows. Parts are supplied in the necessary sets from manufacturer plants and are concentrated at the UTK and its branches, where a constant reserve sufficient for roughly two houses is maintained. After the readiness of the project to receive parts is checked, we begin delivering them according to a schedule agreed to by the builders. In order to do this, advance installation-transport invoices are issued to the UTK and its branches; these invoices indicate the type and number of items to be shipped out, the time of shipment and time of arrival at the project. We anticipate not only delivering parts in technological sequence, but even putting them on the vehicles in the order in which they will be installed. The exact number of parts needed is delivered to each story; advance does not exceed 10 percent (as distinct from the traditional hourly installation-transport schedules, in which advance reaches 66-72 percent).

Thanks to such invoicing, the UTK and its branches are forced to ship out parts in the necessary products list and at the proper time. When each run is made, both the products list of items and the times of shipment and arrival at the project are monitored efficiently.

During the experiment, 23 buildings totalling 162,300 m² put up by the Glavmestroy were supplied with complete sets of components. In this regard, a reference (hypothetical) house 7,058 m² in area was supplied with complete sets of components in an average of 45 working days, given a normative of 78 working days; that is a reduction of 42 percent in the time needed to supply complete sets of components.

It does not follow from the above that all problems of supplying complete sets of components have been fully solved. There are still shortcomings. Planning and schedule monitoring mistakes, occasional unawareness of the status and needs of the projects being supplied, insufficiently active intervention in providing complete sets of components -- all this is evident from time to time in our work. Aware of these weak areas, the collective is working to eliminate them.

Not everything involved in setting up a smoothly functioning construction conveyor depends on the trust, on the building materials industry. There are also shortcomings in work done by builders. Not all construction organizations ready their sites on time, choose the parts ordered, or set up their uninterrupted acceptance. There is often a shortage of vehicles to deliver parts to the construction sites.

For the construction conveyor to work completely smoothly, we need precision in all its links and the efforts of all its participants.

Influence on Labor

Moscow MOSKOVSKAYA PRAVDA in Russian 26 Jun 80 p 2

[Article by O. Mikheyev: "Pointer to the Consumer"]

[Text] We conclude our discussion of the experience in using the new standard net output (NChP) indicator in Moscow construction industry (see the 6 Mar, 27 Mar, 11 Apr, 23 Apr and 6 May issues). This article is about the influence this new indicator has on labor organization.

What that is new has planning and evaluating labor in the new way brought to the laborers themselves? How are the new indicators appraised by those whose labor they are called upon to evaluate reliably?

We would apparently be justified in saying that people's appraisal of these evaluation indicators has also had its own dynamics of development. The traditional "psychological barrier" has also manifested itself here. It was not immediately easy for everyone to reject their accustomed work methods. The gross output indicator had accustomed managers over the decades to thinking about the legitimacy of passing off the fruits of others' labor as their own. Certain of them adopted this attitude to the extent that they shamelessly covered up their own inertia and disinclination to orient production activity towards achieving the greatest national economic impact using fictitious high rates of development. Fictitious, because they were achieved due not to greater efficiency in their own labor, but due to the production of increasingly materials-intensive and heavy items. For such production workers, planning imperfections were a kind of indestructible bastion in which one could always hide from the arrows of criticism.

Tearing things down also takes time. Alas, it takes a very long time when the task is to break stereotypes and habitual ways of thinking. Like any innovation, the new indicators did not get accepted easily. There were initially misunderstandings, mistakes and fulminations, until NChP was finally evaluated on its merits. Everyone at the enterprises, from the top leaders to the workers, had to learn a great deal. Much attention was paid to this problem by the plant and combine party committees and bureaus and by the plant trade-union committees.

Economists investigated the problem most thoroughly, of course, and I did not meet any sceptics or critics of standard net output as an indicator among them. They all agreed on the main thing, that this indicator measures more objectively the labor of enterprise collectives and thus better stimulates increasing its effectiveness, permits shaping the wage fund more accurately, and eliminates or decisively reduces the divergence between state and enterprise interests.

As specialists writing in our newspaper have already noted, the introduction of new indicators has helped to enliven economic work at the enterprises. The changeover of brigades and shifts to cost accounting has accelerated and personal economizing accounts have been introduced into practice. The concepts of cost accounting are striking root deeper and deeper in the consciousness of engineers and workers.

There are, of course, exceptions to the general rule. One still encounters inertia and a lack of initiative among specialists and even economists. Such cases only confirm that no one indicator can absorb and reflect all reserves for getting people to approach the work entrusted to them in a creative way. Honesty, knowledge, caring and a lively, interested participation in production affairs have always been and will always be among the decisive factors in developing production. Without these human qualities, no single indicator and no single economic "lever" will be able to operate at full strength. But there is an opposite connection as well. Planning improvements entail quite a few shifts in the mind-set of production workers. The overwhelming majority of them are now "for" NChP, and the disputes and doubts which do still exist involve not the indicator itself, but the conditions under which it is applied.

NChP has had a substantial influence on socialist competition, on the effectiveness of moral and material incentives, by strengthening the orientation of the incentives towards national economic end results. This was to be expected: the indicator is in fact extended down to the shops producing end products and is included among the basic indicators for awarding bonuses to supervisory and engineering-technical workers in shops and plant administrations. And the workers have also "felt" the new planning. Let's say there are two brigades, one of which makes large, materials-intensive items and the other of which makes small items. Using "gross" as an evaluation indicator, the second would always do worse than the first, even if the second used raw and other materials economically and produced high-quality output. But now, NChP, by measuring labor expenditures precisely in the collectives, provides an objective basis for comparing and evaluating their achievements.

By linking bonuses to meeting plans and assignments in NChP terms, the effectiveness of NChP has been increased at enterprises of the main administration. Incentives no longer "see" a blurred, overall goal in the form of gross volume. They are oriented towards consumption of the product and take into account how fully the consumer's needs are being met. The role and prestige of the bonus as a flexible, deserved reward for an actual and not apparent increase in labor effectiveness have grown. The bonus now depends wholly on carrying out products-list plans precisely and fully for each position, that is, from standard net output production volume to overfulfilling the plan in terms of releasing items with the Badge of Quality.

The new planning has enabled us to increase economic incentives funds. Thus, for example, deductions to material incentives funds at the Kuntsevskiy No 9 Reinforced Concrete Products Combine for overfulfilling production and labor productivity growth plans averaged about 16,000 rubles per year in the Ninth Five-Year Plan; they averaged more than 20,000 rubles in the 10th. One revealing example is the supplementation of these funds thanks to overfulfillment of the plan for producing Badge of Quality items in 1979. That plan was exceeded 2.4-fold, which put an additional 6,200 rubles in the enterprise's "pocket."

The main administration has begun summing up competition results for the title "best in occupation" more objectively. Previously, we simply gave first place to the one who produced the most physical cubic meters. The labor intensiveness of those cubic meters and the complexity of the items did not enter into the calculation. In order to at least differentiate our approach to evaluating the results for workers in one specialty at different enterprises somehow, they were divided into four groups, but even that was only a first approximation of an objective compilation of results. All the diversity of items in terms of labor intensiveness and complexity was put into a single denominator only when we began planning using NChP and conventional-physical cubic meters. The circle of those competing under the slogan "Work Better Today Than Yesterday, Better Tomorrow Than Today" also widened and now encompasses more than 20,000 workers. In this regard, the average absolute output per shift of the brigade and of each of its members is the basis on which the competition results are summed up. It is now determined once again with consideration of the labor intensiveness of the article being manufactured, that is, more objectively.

Characteristic changes have occurred in summing up the results of interplant competition. Those who traditionally emerged the victors, who received the challenge Red Banners and monetary bonuses of the enterprise, when results were evaluated on the basis of gross output and in physical cubic meters, were those who produced the less labor-intensive, simple products, for example, reinforced concrete plants Nos 4, 5, 6, 8 and others. Plants with the more difficult items in terms of actual labor expenditures were doomed to the "middle." Planning and evaluating collectives' activity in terms of standard net output and conventional-physical cubic meters has placed all enterprises on an equal footing. This has once again affected the orientation of incentives. Those plants whose collectives are achieving real, not

fictitious, improvement in production efficiency have begun winning inter-plant competitions. Collectives of the Beskudnikovskiy No 1 Combine, the Kuntsevskiy No 9 Combine, ZhBI Plant No 18 and others have often been among the leaders. Plants which manufacture items at open on-site yards have also begun winning.

Conclusions

Moscow MOSKOVSKAYA PRAVDA in Russian 9 Jul 80 p 2

[Article by O. Mikheyev: "How Incentives Work"]

[Text] We conclude our discussion of the experiment in using the new standard net output indicator in Moscow construction industry (see the 6 Mar, 27 Mar, 11 Apr, 23 Apr, 6 May and 26 Jun issues). This article is about the influence the new indicator has on the organization of socialist competition.

How the new planning indicators have influenced the organization of inter-shop competition is of great interest. It is here, in the shops, that the labor process is directly implemented, that the changes wrought by planning in the new way stand out sharpest. It is here that we see especially clearly how incentives "work." I had the opportunity of speaking with several shop chiefs at prefabricated reinforced concrete main administration enterprises.

"Our main concern now is to produce items in precise accord with the planned products list," says Aleksandr Mikhaylovich Filippochkin, No 9 shop chief at the Beskudnikovskiy No 1 Combine. "We produce exactly as many items of each type as planned, which will itself meet the plan in terms of NChP, since it is drawn up on the basis of the products-list plan. And failure to meet this plan will immediately affect brigade bonuses based on results for each month. For our shop, this plan has 310-320 items, and we are carrying out each item strictly."

Previously, the picture was quite different. The shop collective, in the words of its chief, tried to carry out and overfulfill the plan basically through expensive, materials-intensive items. No one was interested in whether the builders needed them. Incentives were not working along the necessary lines. As a result, the plant's finished products warehouse was always crammed with "non-disposables," up to 100,000 rubles worth for the shop and, as I found out, about a million rubles worth for the combine as a whole. The shops and the combine reported these sums and received bonuses for them, while these "nondisposables" not needed in such amounts by builders sometimes sat for months in the plant warehouse. At the same time, construction brigades often stood idle at construction sites, waiting for needed components.

Now, items produced in excess of the products-list plan are simply not accepted by the finished products warehouse from the shop. The warehouse keeps

close track of whether all shops are following the products list precisely and of the number of items, so that projects being built will be sent full sets of components and parts. The concept of a profitable item or an unprofitable one has therefore now lost its meaning. Failure to carry out any aspect of the plan is fraught with the danger of losing some brigade bonuses.

"The moral atmosphere in which workers work has now changed," thinks A. Filippochkin. "Before standard net output was used as an indicator, in 1975, I was a foreman here. I know how the work rhythm is broken when the finished products warehouse is crammed with 'profitable' items and for that reason sometimes refuses to accept any output because there is no place to put it. There were long idle periods and brigade wages dropped. When that happens, just try explaining to the workers why we are making products which then sit in the warehouse for months on end for all to see. This confusion, this lack of smoothness and this idle time is very unnerving to people. Much has changed since then. We are working smoothly, without idle time or storming. What happens is that the output leaves the shop and goes straight to the construction site, by-passing the finished products warehouse. Wages are stable in the brigade and it seems to me that people's wages are now truly earned."

The figures support these words by the chief of shop No 9. The shop is overfulfilling standard net output plans and profit has increased: in 1978, profit was 932,100 rubles, in 1979 -- 1.182 million rubles. NChP has also changed the content of profit, in a manner of speaking. When planning was in terms of gross output, the shop collective was not that interested in receiving profit: if it could increase and overfulfill work volumes in "gross" terms at any price, it would almost automatically also fulfill the profit plan. But now, profit is generated in direct proportion to increased production efficiency.

This also happens because output is produced in strict accord with the requirements of the construction sites and is for that reason marketed almost immediately, reaching the customer in pristine condition and not damaged by lying about or being moved around in warehouses. The fact that additional labor by combine workers sent to construction sites to eliminate defects and damage on the spot, as often happened previously, is no longer imposed on output net cost also has an effect. The combine no longer sends its own workers to construction sites and its workers need no longer blush about the quality of its products.

The fact that this is now a typical picture at a majority of the enterprises of the branch supports the words of another middle-link leader, Konstantin Petrovich Vorob'yev, chief of the No 3 molding shop at the No 18 reinforced concrete plant.

"Our workers now have the new system well in hand: the main thing is plan fulfillment in terms of the products list. Here is a typical example. In

the first bay of our shop we can manufacture six types of items, all of which are in demand. But if the brigade working there does not meet the products-list assignment, it does not receive a monthly bonus, which is quite substantial -- 30 percent of their wages. Once, I switched this brigade to producing other, nonplanned output for one day. Right away, they interrogated me: how will we be able to meet the products-list assignment?

"Each brigade has been given its own rules for awarding bonuses," continues K. Vorob'yev. "A. Svirin's brigade, for example, makes 39 different items, but A. D'yakonov's brigade makes five. The conditions are different, as is the approach. If the first brigade fails to meet the assignment for 1-4 of the 39 items, the bonus amount is reduced; for five items, it receives no bonus at all. But the second brigade is denied a bonus if it fails to meet the assignment for even one item. Thus, the principle of competition results comparability is actualized at the brigade level under the new conditions.

Planning in the new way has increased the efforts of main administration enterprises to economize on labor resources. We need not explain to the reader the importance of this problem: labor resources reserves in the capital have been exhausted, and the city's economy can and must be developed exclusively through labor productivity growth, without enlisting additional manpower. On the eve of the 10th Five-Year Plan, the Glavmospromstroymaterialy put forward an initiative aimed at saving labor resources and securing personnel. The Moscow gorkom bureau approved that initiative at that time and noted its particularly important significance.

And what has five years of practical experience demonstrated, that being the best trial for any innovation? On the whole, it has confirmed that the initiative is supported by serious calculations and a large complex of organizational-technical measures. It was planned that the main administration would increase production entirely through labor productivity growth, without additional recruitment of workers from other regions of the country, in the 10th Five-Year Plan. This promised to provide the state with about 10 million rubles in economy. We should indicate that, according to directive figures for the five-year plan, the plan was to be doing 80-85 percent of the work through productivity growth by the end of the five-year plan.

In order to keep their word, labor collectives would have to increase labor productivity to a level which would have hypothetically freed 15,600 workers for other jobs during the five-year period. During the first four years, about 12,740 hypothetical workers have been so freed. This past year, 99 percent of the production increment has been obtained through increased productivity. (One percent was "amputated" by new capacities.) Personnel turnover decreased by 10 percent at main administration enterprises.

These figures indicate that we have done what was planned. But has the new planning system helped solve this important problem? Let us refer to the opinion of Candidate of Economic Sciences V. Kovalenko, deputy director of the "Mosorgastroymaterialy" technical design bureau, and Yu. Nikolayeva, head

of the main administration's department of labor organization and wages. They think it has been precisely planning improvements which have had the decisive influence on saving labor resources. This connection is manifested in a mediated, nonobvious form, but it does exist. For example, V. Kovalenko thinks that if the new indicators had not been introduced, turnover would not have been reduced so much; in fact, it would have grown. The fact is that, without NChP, enterprises which have mastered the production of large amounts of new output in connection with the construction of Olympic projects and mastering the release of unified catalog parts for housing construction would have gotten in a difficult financial position. This would have reduced economic incentives funds by approximately a million rubles and would have reduced worker wages. In such circumstances, one could hardly have expected an intensified struggle for economy and thrift.

Thus, standard net output has also recommended itself well from the viewpoint of stimulating the more precise and intelligent organization of people's labor at all levels of production management. Production workers have had to set up their work properly, to make their labor more steady, and wages and bonuses are responding more flexibly to actual labor expenditures; moral and material incentives are oriented more towards achieving national economic end results. Incentives are being "earned" in the proper direction and are being developed more actively. That was the goal and that is what has been achieved.

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CONSTRUCTION

ECONOMIC, OTHER ASPECTS OF ESTONIAN CONSTRUCTION INDUSTRY SUMMARIZED

Improving Management

Tallinn KOMMUNIST ESTONII in Russian No 3, 1980 pp 27-34

[Article by Candidate of Economic Sciences Bruno Saul, deputy chairman of the Estonian Council of Ministers: "On Improving the Management of Construction"]

[Text] In carrying out the provisions of the 25th Party Congress on improving national economic management, the CPSU Central Committee and the USSR Council of Ministers last year approved the Decree "On Improving Planning and Strengthening the Effect of the Economic Mechanism on Raising Production Efficiency and Work Quality." This decree has taken into account the results of numerous experiments in improving planning and economic incentives as carried out at the enterprises, in the production sectors and regions of the nation.

In carrying out the designated decree, the Central Committee of the Estonian Communist Party [ECP] and the Estonian Council of Ministers on 25 September 1979 also approved a decree. In both documents a great deal of attention is given to capital construction, a national economic sector which creates the fixed productive capital and which still has many unsolved problems. Below an analysis is given of the experience acquired in our republic over the 4 years of the Tenth Five-Year Plan in construction operations and the ways to improve construction management.

As is known, in the Tenth Five-Year Plan for the economic and social development of Estonia, the volume of capital investments was set at 3.6 billion rubles, including 2.1 billion rubles for construction and installation work. Thus, in comparison with the Ninth Five-Year Plan, the planned increase is approximately 15 percent, while the construction-installation work in the capital investment structure is 58 percent. Over the 4 years of the Tenth Five-Year Plan, 3 billion rubles of capital investments have been used, and 1.7 billion rubles of construction-installation work, that is, correspondingly 100 million rubles more and 44 million rubles less than the planned indicators of the 4 years. In comparison with the actual

Fulfillment of the Sixth Five-Year Plan, 11.2 percent more construction-installation work was carried out (the increase was 170 million rubles). According to the 1980 plan, it is essential to use 760 million rubles, including carrying out 400 million rubles worth of construction-installation work. This is, respectively, 50 and 15 million more than planned by the five-year plan for the current year.

Capital construction makes a major contribution to increasing the fixed productive capital. By the end of 1979, almost one-third of the capital had been renewed (26 percent in industry and 44 percent in agriculture). In our republic, during the 1976-1979 period, 70 large industrial enterprises and shops were put into operation, for example, the shop at the compound mineral fertilizer plant in Kokhtla-Yarva, the whole milk substitute plant in Payde, the Sangar garment mill, the Iruskaya TETs, the shop of the Mistra Association in Vyandra, the Isborsk--Tartu--Rakvere gas line, and others.

In agriculture, livestock structures for 83,000 head of cattle and 174,000 hogs have been put into operation. The specific housing construction programs are being successfully carried out (85,000 m² of total housing area were built above the plan), the unique Olympic projects are going up, and so forth. These results are the outcome of the intense labor by several-score thousand construction workers, the outcome of the measures taken by the party and the government to improve construction, as well as the aid provided to the construction workers by the local party and economic bodies. Nevertheless the state of capital construction in the republic still does not satisfy us.

What are the reasons for the dissatisfaction and what must be undertaken to improve construction? We feel that the main factor is in the slow realization of the achievements of scientific and technical progress in construction and the growing scarcity of labor resources with the present demographic situation.

The entire range of problems can be divided into two groups. In the first place, the scientifically sound adjustment of the capital investment policy under the conditions of developed socialism. Obviously the given group should include the scientific establishing of the financing sources for the capital investments (the amounts of the accumulation fund in national income and amortization deductions), the setting of the intersectorial national economic proportions of capital investments (for eliminating the disproportions), and adjusting the ratio of new construction and reconstruction for the purpose of raising the return on capital. The Estonian Gosplan must direct the solving of these problems for our republic.

Secondly, a rise in the efficiency of capital construction. As is known, the weak point in this area of the national economy is the discrepancy between the production capacity (read, production facilities) and the demand, as well as the planned scattering of resources between the numerous capital construction projects (hence the high share of incomplete product), and the

poor engineering preparations for construction due to the lag in design work and the time losses caused by this at the sites (in 1979, around 7.5 percent of the working time fund). All this leads to the failure to observe the construction times, to increased work costs and inferior products. In recent years, in truth, we have succeeded in completing and putting into operation a whole series of "old timers," however even now this list includes the Bindi Cloth Mill laeni 1 Dekabrya, the Yuleniste Railroad Station in Tallin, and others the construction of which has now been dragged out almost 10 years.

The comprehensive program for the development of construction in the republic was set by the 6th Plenum of the BCP Central Committee held in May 1977. This plenum analyzed the successes and shortcomings of construction in the republic. Nevertheless it is essential to steadily continue to improve the management of the given national economic sector.

In improving the comprehensive activities related to the management of construction, it is important to clarify its function, the organizational structure and the informational system. A distinction is made between the following management functions:

- 1) Forecasting, planning and designing,
- 2) Scientific and technical progress,
- 3) Labor resources and social development,
- 4) Material and technical resources,
- 5) Financial resources,
- 6) Technical operational and
- 7) Accounting and control activities.

In proposing a classification of management functions for our construction leaders for analyzing the various aspects of construction activities and synthesizing the methods of comprehensive management of it, at the same time it is essential to isolate the particular features of capital construction in comparison with the other national economic sectors. These particular features are: 1) the long production cycle, 2) the relatively large expenditures per unit of completed product (per project), 3) the immobility of the construction project and the mobility of the implements of labor, 4) the sectorial specific features of the construction project (land reclamation, gas line, civil construction project, and so forth), and 5) the normative base of construction (the proportional capital investments, the construction dates, the incomplete construction product, the economic effectiveness of the capital investments, and the times for reaching full capacity).

All the listed factors must be considered in practical managerial activities. Unfortunately, our construction engineers are least prepared in precisely this regard.

Let us examine the implementation of each individual management function.

Forecasting, Planning and Designing of Capital Construction

As is known, the aim of capital construction is the creation of new productive and nonproductive fixed capital and the renovation of existing capital, and the source of its financing is national income (along with the amortization fund). The capital construction forecast must determine in monetary terms the long-range demand (calculated for 20 years ahead) for the creation of fixed capital. Here it is essential to consider the degree of amortization for the fixed productive capital (it presently is 38-40 percent), and the demand for the renewal of this capital. At present, unfortunately, such scientific forecasts are still not being made.

In recent years extensive work has been done to improve the annual capital construction plans: continuous planning (title lists for 3 years) is being introduced, there is a greater concentration of capital investments, the volume of incomplete construction is being reduced (this year, for the republic it is 51 percent), the construction plans are better balanced with the material and labor resources, and so forth. For example, while during the entire Ninth Five-Year Plan, the capacity of the Tallinstroy [Tallin Construction] Trust lagged by almost 10 percent behind demand, and its annual plans were not fulfilled once, last year this major collective of construction workers for the first time met the plan quotas.

In comparison with industry or agriculture, a particular feature of capital construction planning is that along with the conformity of the planned construction volumes with the material-technical, labor and monetary resources, each construction project without fail should also be provided with design specifications which usually are worked out outside the department of the client. And the plans determine the engineering preparations for construction, the prompt placement of orders for structural elements, the planning of specialized work, and so forth, in a word, the movement of the entire construction and technological conveyor. However, precisely the coordinating of plans--this most important stage in the preparations of construction--is our most painful point. Thus, by 1 December 1979, the organizations of the Estonian Ministry [Ministry of Construction] still had not received the technical specifications for 15 major projects planned for 1980, with a cost of construction-installation work running into many millions of rubles. The parties guiltiest of this are the Tallin City Executive Committee and the republic ministries of education and agriculture.

The current system of capital construction planning in the future must be reorganized in accord with the Decree of the CPSU Central Committee and USSR Council of Ministers "On Improving Planning and Strengthening the

Effect of the Economic Mechanism on Raising Production Efficiency and Work Quality." The starting points of the new planning procedure are:

- 1) The stability of the capital construction plan which is designed for a 5-year period,
- 2) The conformity of the plan with the material, labor and financial resources, the production and power equipment, the capacity of the construction-installation organizations and the plans,
- 3) The basing of the system of evaluation indicators in the construction organizations on commodity construction product and the use of production capacity,
- 4) The planning of production and capital construction as a single whole,
- 5) In the 11th Five-Year Plan the implementation of labor productivity planning in the construction-installation organizations using net product, and wage fund planning using a rate per ruble of product.

At present the republic Gosplan, Gosstroy and construction departments are confronted with the serious task of introducing the designated system in order to accelerate the completion of production capacity and raise capital investment efficiency.

The Control of Scientific and Technical Progress

The realization of this function in construction is of fundamental significance, since the introduction of the achievements of scientific and technical progress should provide the basic increase in labor productivity and help to improve its social character. By this we mean the industrialization and mechanization of construction, the shortening of construction times, a greater diversity of architectural plans, an improvement in work quality, a greater attractiveness of construction labor, and so forth. For this reason scientific and technical progress should appear not only at the construction site, but also in the activities of the scientific and design institutes and the plants producing building materials and structural elements.

The Decree of the ECP Central Committee and Estonian Council of Ministers "On Measures to Improve the Effectiveness of Scientific Research in the Area of Construction, Architecture and Building Materials and to Accelerate the Introduction of Scientific Achievements into Construction Practices" gives particular attention to the state of this work in our republic.

It must be pointed out that the 10-percent increase achieved in labor productivity in construction during the Tenth Five-Year Plan (instead of the 20-22 percent provided by the decisions of the 17th ECP Congress) is clearly unsatisfactory. The available construction equipment and the level of construction industrialization and the use of computers do not meet present

requirements, and the information system essential for this is lacking. In 1979, the plan for the introduction of new equipment was fulfilled by only 65.4 percent.

According to the Decree of the CPSU Central Committee and USSR Council of Ministers on improving planning, in 1980, the scientific research, design, architectural planning and engineering organizations and experimental enterprises presently under the industrial ministers should complete their transition to the self-financing system of developing new equipment which envisages the development and introduction of this equipment under contracts (schedule orders). The scientific and technical potential of the Scientific Research Institute for Construction under the Estonian Gosstroy, the ONIPI [State Scientific Research and Design Institute] for autoclave-hardened silicate concrete, the Orgastro [Organization of Construction] Trust of the Ministry of Construction, the Tallin Polytechnical Institute and the Economics Institute of the Estonian Academy of Sciences should in the forthcoming years basically help to accelerate scientific and technical progress in construction. It is essential to merely make full use of those opportunities which are created by the party and government decrees and which are to be found in objective reality. The Estonian Gosstroy must direct this question.

Management of Labor Resources and Social Development

While in the middle of the Tenth Five-Year Plan, the annual influx of the labor force into the national economy was 2.5 million persons, according to the 1985 forecasts, it will be only 0.2 million. Consequently, the training, allocation and rational utilization of the labor resources and intensive management methods should be viewed by the production leaders of all levels as the number-one task. In other words, only by raising labor productivity is it possible to compensate for the manpower shortage and bring about a further increase in product.

At present the republic is taking measures to increase the training of construction workers, to improve their skills and better vocational guidance, as well as to improve the system of material and moral incentives, introduce advanced labor methods, reduce working time losses, strengthen labor discipline and solve the problems of improving domestic and recreational conditions, to retain personnel, reduce manpower turnover, and so forth.

According to the 1980 plan, in the Estonian economy, the number of workers will increase by 7,100 persons, but only 3,000 of them will go into the production sectors. This is clearly insufficient, and the construction organizations must get by with the available manpower, and raise labor productivity by 3.2 percent. The situation requires that in the future a limit be planned for each construction organization for the number of workers, this number must be strictly observed, and when necessary to flexibly shift workers, and do better work to recruit and retain employees. Here the basic burden rests upon the Estonian Gosplan and Goskomtrud [State Committee for Labor and Wages], on the construction departments, and it may be

hoped that at all construction projects they will provide for the planned number of employees.

The social development plan has now become an organic part of the national economic plan, and it includes the wage fund and the material incentive fund, the deductions from the public consumption funds, housing and domestic conditions, children's institutions, and the organization of recreation. In our times it is impossible to retain personnel without solving social problems, and it is essential that the construction workers themselves understand this and take the appropriate measures.

At present the basic reasons for dissatisfaction with labor in construction is the insufficient wage level (in the organizations of the Estonian Ministry, it is below the republic average) and the shortage of housing. A rise in wages depends primarily upon the growth of labor productivity and the use of advanced methods for organizing labor (the brigade contract). As for the availability of housing, in the Tenth Five-Year Plan, for example, just the organizations of the republic Ministry, in addition to the existing 603,000 m² of housing, will receive another 300,000 m² (in the Ninth Five-Year Plan, 218,000 m²). Thus, 6,000 apartments are to be made available to the system employing 22,000 construction workers. This is a great deal. However, the underestimation of other incentives and the open question of the legal assigning of housing to the construction organizations makes it impossible for the Estonian Ministry to attract additional manpower. The existing situation must be carefully studied and the appropriate measures taken.

Recently more attention has begun to be given to organizing the recreation of construction workers. The Tervis Sanatorium is to be enlarged, a recreational house for the construction workers trade union is being designed in Tartu, and so forth. Also exceptionally important is the organizing of the free time of construction workers (amateur artistic activities, sports, excursions, and so forth), since this is one of the reserves for raising labor productivity.

Management of Material and Technical Resources

This management function can probably be termed the Achilles' heel of all construction in the republic both in quantitative and qualitative terms. A resolution of the given problem would open up broad opportunities for raising labor productivity, for improving the quality of construction and architectural plans, and for reducing social psychological stresses in construction work.

The function of material and technical supply is divided into 1) the determining of material and technical resources in the plans, 2) the drawing up of production programs for the resources, 3) establishing and deferring the demand for the funded material and technical resources and their realization, and 4) the prompt and complete delivery of material-technical resources and equipment to the construction sites.

Under conditions where the range of material and technical resources runs into thousands and even tens of thousands of items, and when their production and distribution are the concern of the Estonian Gosplan and Gosnab, the industrial ministries, clients, construction workers, and so forth, the problem becomes excessively complex. For this reason the ability to escape from the situation (maneuver) with limited resources, and the creation of a local industrial base for their production become most important tasks in the actual work of the leaders of construction organizations.

Our republic's government has taken a whole series of measures in this area. Thus, from 1 January 1976, as an experiment the organizations of the Estonian Ministry have begun to be supplied directly through the Gosnab system. This is done through the construction trusts and in accord with the plans and estimates. Due to the energetic measures of the Gosnab, the experiment is already producing its first results. The allocation of nonfunded local materials has also been shifted from the republic Gosplan to the republic Gosnab. Such a measure has proven completely effective. The consumption structure (in monetary terms) for material and technical resources at the construction sites is as follows: 45 percent of the product of the building materials industry, 17 percent of the wood processing industry, 13 percent metalworking, and the remaining 25 percent from other industrial sectors.

The building materials industry in our republic, in terms of the range of products produced (cement, cabinet work, wall, insulating and inert materials, lime, glass, and so forth) completely meets the local demand. Difficulties are encountered with the supply of metal, lumber and certain other materials which are shipped in. Greatly in debt to the construction workers are the Estonian Division of the Baltic Railroad and the Estonian Ministry of Motor Transport and Highways which have not provided the prompt delivery of material and technical resources to the construction sites.

In 1977-1980, additional measures have and are being taken to increase construction capacity in Estonia. With the aid of the Union organizations, around 100 million rubles have been invested into the development of the production facilities and construction industry. As a result, a Tartu housing construction combine, a new cement plant in Myanniku, a shop of the Metallist plant in Kokhtla-Yarva, shops for ventilating systems, asphalt-perlite and wood treatment in Tallin, a reinforcing rod shop in Narva are built or are still in construction, and the Tallin housing construction combine is being expanded. In the region of Pyann'yeva, a large mechanized quarry has been built to produce construction sand, and in Tallin, an industrial ceramics shop is being built, and a slate shop in Kunda. A new brick plant is being built in Vyr, and the production of silicate brick has been reconstructed in Tallin with a capacity of 65 million units a year. The construction facilities of the general construction trusts in Tallin, Tartu and Kokhtla-Yarva have been substantially upgraded. This is also true of the mechanized construction columns in Vil'yandi and Khaapsalu; the interkolkhoz construction offices in Pyarnu, Pylva, Pyltsamaa and Keyla, as

well as the specialized construction organizations in Tallin, Tartu and Kokhtla-Yarva.

Thus, on the threshold of the 11th Five-Year Plan, a significant increase has been achieved in construction capacity, however its rapid increase must also be continued in the future. In particular, particular attention must be paid to the construction of the Kokhtla-Yarva housing construction combine and to the reconstruction of the Narva building materials combine. In the future lies the building of the Pyarnu combine for prefabricated small wooden houses, the plant for special metal structural elements (with the simultaneous expansion of production for sanitary-technical articles), an increase in capacity for the production of finishing materials and granite mining, the development of production facilities at the repair organizations and road construction through extensive republic-wide cooperation and specialization.

Management of Financial Resources

In disposing of financial resources, the state controls the state of construction and works for efficient capital investments, hereby using levers such as price policy, cost accounting (costs, the wage fund, and profitability), and credit.

However, it must be recognized that the current management system does not make it possible to fully utilize the financial levers for increasing the material incentive of the construction organizations as a whole. For example, in 1978, profitability in the system of the Estonian Ministry was just 2.7 percent, and as a result many construction organizations operated at a loss, they had no accumulation, and material incentives were insufficient.

Along with the stabilizing of the 5-year capital construction plans and accelerating the completion of production capacity, the decree of the CPSU Central Committee and USSR Council of Ministers also envisages innovations in the procedure for making payments and financing construction. The principle is to be introduced of continuous financing for state capital investments for production-end construction projects on the basis of title lists for the entire construction period and within the limits set in the estimate. With the overfulfillment of the capital construction plans, the construction sites are to be financed from credit. Payments between the contracting organizations and clients will be made only for fully completed and operating projects and nearly completed complexes, stages and enterprises, without intermediate payments. The expenditures of the contracting organizations on incomplete construction are basically to be covered by bank credits. In individual industrial sectors, enterprises will be built solely by bank credit granted to the contracting organizations within the limits of the full estimated cost of construction. In practical terms this means that fully completed "turn-key" buildings are to be turned over to the client. Such a method is now being developed in the system of Estkolkhozstroy [Estonian Kolkhoz Construction Trust] in erecting small housing.

For strengthening cost accounting, long-term economic standards are being set which will guarantee an increase in the resources left at the disposal of the construction-installation organizations and greater profitability. For these same purposes, in 1981 wholesale prices for building materials will be adjusted.

In order to carry out these provisions, the Gosstroy and the Estonian Republic Office of the USSR Stroybank, the Estonian State Price Committee and Estonian Ministry of Finances, together with the construction organizations, must carry out great creative work. Its results involve the interests of both the many thousands of construction workers as well as the entire republic economy to the development of which the construction workers are contributing, in creating national income and fixed capital.

Operational and Technical Management of Production

The aim of operational and technical management is to create optimum working conditions on all management levels for the direct participants of construction. For this it is essential to form functional structural subdivisions (dispatcher services), define legal, compulsory relationships, and create a technical basis of management (an information system). The immediate object of this management function is the construction site with the general contractor, scores of subcontractors, suppliers, the transport service, communications, power supply, the supervisory bodies and other subdivisions. The criterion for the effectiveness of operational and technical management is the smooth work at the construction projects and in its central element, the dispatcher service.

Skilled operational and technical management presupposes high professional training, efficiency, effectiveness and the good health of the personnel. However it must be admitted that the realization of precisely the given management function produces the lowest efficiency, and the reason for this is in the weakness of the personnel and the material-technical (informational and office) facilities, the lack of reserves, insufficient maneuverability and low executive discipline. The possibilities of synthesizing the economic, social and administrative managerial methods have also been poorly worked out. Special attention should be given to the development of automated management systems for the "plan--construction site" element.

Accounting and Control

Accounting and control are of important significance primarily for instituting and regulating operational and technical management. Control is the most important element of feedback, an obligatory element in drawing up plans and forecasts. The accounting and control functions at the center and on the spot are entrusted to the statistical bodies which process the primary information coming in from the construction sites. But even more important is a precise internal accounting and control system in construction which would effectively provide the summary and selective information to the superior leadership. In the current reporting procedures there is

a good deal that the Republic Central Statistical Administration should work on improving. The role of the arbitration bodies in strengthening contractual discipline, in resolving economic disputes between the client and general contractor, the general contractor and supply organizations, and so forth, could be more active, particularly in light of the law passed last year on state arbitration in the USSR.

The above-examined management functions can be carried out only in the given, clearly defined managerial structure. For this reason, it is also advisable to touch upon those problems which arise in the evolution of the management structure for construction activities. The question, as is known, is linked to the volume of capital investments.

In recent years the capital investments in our republic have stabilized, and, judging from the forecasts, a substantial increase in them is not expected, although structural shifts are possible in them. Considering a certain overfulfillment of the plan for public works and road construction, expenditures on capital construction in the republic will reach around 800 million rubles a year, including 400 million rubles for construction-installation work. The latter total is to be distributed between the executors in the following manner: 150 million rubles are to go to the Estonian Minstroy (with the enterprises of the USSR Ministry of Installation and Special Construction), 100 million rubles each for the republic Estkolkhozstroy [Estonian Kolkhoz Construction] Association and the departmental repair and construction organizations (including for major overhauls), and 40 million rubles for the Estonian Ministry of the Communal Economy. The other systems such as the USSR Ministry of Power and Electrification will receive 33 million rubles, 10 million rubles for the USSR Ministry of Transport Construction, and so forth. Moreover, the construction volume using the direct labor method will be around 50 million rubles (this total includes also 20 million rubles to be used by the kolkhozes for construction and installation work).

Thus, the largest construction organizations in our republic are the Minstroy and the Estkolkhozstroy Association, and the main efforts must be focused on their further development. Along with the enlarging of the departmental construction organizations, under specific programs the local soviets must also solve the problems of the territorial development of the construction organizations.

In improving the organizational structure of construction the focus has been put on the accelerated introduction of economic management methods, the concentration of construction and the creation of construction combines. And this has produced definite results. Thus, in the system of the republic Minstroy, the Tartu Housing Construction Combine has been organized (with a capacity of 100,000 m² of housing per year) and the Tallin Mobile Mechanized Column No 36 (a future industrial construction trust). By merging the Tallin and Tartu Spetsel'khovstroy [Special Agricultural Construction] trusts, the Tartu Rural Construction Trust has been formed. The small organizations such as the Pyarnu Construction Administration and the

Saps and Khar'yuskly mobile mechanized columns have been abolished. In Kingiseppskiy and Kohtla-Yarveskiy rayons, the mobile mechanized columns of the Ministry and in Khiumaaskiy Rayon the repair-construction administration of the Ministry of Food Industry were reorganized into inter-kolkhoz construction offices and made part of the Republic Estkolkhosstroy Association system. In Tallin, the rayon repair-construction and elevator repair and construction administrations as well as the administration for sanitation-technical work were combined into the city repair-construction trust. Due to the new structure and to the strengthening of the production facilities and personnel in the Tallin construction organizations, over the last 4 years, the volume of construction-installation work carried out has risen by 100 million rubles, or by 31.4 percent in comparison with the same period of the Ninth Five-Year Plan.

According to the decree of the CPSU Central Committee and USSR Council of Ministers, construction is to convert to planning, accounting and evaluating of operations using the indicator of commodity construction product. In this regard, the Estonian government has taken a decision to convert the republic Vinstroy as an experiment to this system as of 1 January 1980. Repair organizations are to be created in all the rayons and republic-level cities (with the exception of Khiumaaskiy Rayon and the town of Sillamäe). In this manner the changes planned for the Tenth Five-Year Plan in the structure of the repair-construction organizations will be carried out. The aim of the subsequent improvement is to convert to a two-tier management system (ministry--trust), and a reduction in the isolation of the construction organizations, particularly the specialized ones.

The structure of the clients also needs improving. As a whole it has proven effective to set up unified client-organizations for the Olympic projects in the industrial center of Tallinskiy microrayon of Suur-Spynayae, and in city housing construction. The new design organizations such as the State Design Institute for Cultural Monuments (in carrying out the specific restoration program of Tallin) and the State Engineering Research Institute have also helped to improve construction.

In our republic there is no single center which would have control over all the design, construction and supply organizations. By a decision of the Sixth Plenum of the BCP Central Committee, the Republic Commission for Construction was set up, and this includes representatives from the Gosplan, Gosstroy, Gosstat, the Ministry, the Estonian Ministry of Building Materials Industry, Estkolkhosstroy, the Estonian Republic Office of the USSR Struybank, and other organizations. The Republic Commission for Construction is helping to improve the scientific and technical level of construction, to raise production capacity and increase its load factor, to improve the structure of the construction repair organizations, and to deepen cooperation and specialization in the construction industry. At present the commission is confronted with the responsible task of carrying out in construction the Decree of the CPSU Central Committee and USSR Council of Ministers "On Improving Planning and Strengthening the Effect of the Economic Mechanism on Raising Production Efficiency and Work Quality."

It remains to express certainty that all the ministries and departments related to construction as well as the local party and soviet bodies will take a most active part in a fundamental improvement of construction where the enormous scale, in the expression of Comrade L. I. Brezhnev, particularly shows the scope of the creative activity of the Soviet people.

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Economic Survey

Tallin SOVETSKAYA ESTONIYA in Russian 27 Apr 80 p 1

[Article by L. Ananish, head of the Department for Construction and the Multiple Economy of the ECP Central Committee: "Construction: Results of the First Quarter"]

[Text] In endeavoring to properly celebrate the 110th birthday of V. I. Lenin and the 40th anniversary of the restoration of Soviet power in Estonia, the republic construction workers have concluded the first quarter of the final year of the five-year plan as a whole with fair results.

For example, in Kokkila-Yarva, in close cooperation with the operating workers and Polish specialists, they have successfully completed the final adjustments, and the workers of the Slantskhim (Shale Chemistry) Association, as was envisaged by the socialist obligations, by the anniversary of the leader brought an installation producing sulfuric acid up to designed capacity.

In Narva, the administrative and service building of the motor pool has been completed ahead of time, and at the Yygeva Sakala Sovkhoz, a poultry farm for 8,000 birds. The plan for completing housing was fulfilled by 125 percent. By the 110th birthday of V. I. Lenin the workers of the Tallinstroy [Tallin Construction] Trust completed the 4-month plan for construction-installation work both under the general contract as well as by their own forces.

With the overfulfillment of the established quotas, in January-March, in Tallin the facilities were built related to the holding of the sailing regatta for the Moscow Olympic Games. The quarter quota for the construction of preschool institutions was fulfilled by 120 percent, by 114 percent for the construction of general education schools, and the plan for contracting work relating to environmental conservation measures and the rational use of natural resources was fulfilled by 108 percent.

As a whole, the plan for the first quarter of the current year was fulfilled by 124 percent in terms of capital investments, and this was 6 percent more than the same period of the previous year, including by 106 percent for the construction-installation work with a growth of 2 percent over the corresponding period of last year.

The year 1966 has been successfully started by the collectives of the Narva and Tartu General Construction trusts, the Santekhmontazh [Sanitation-Technical Installation] and Stroymekhanizatsiya [Construction Mechanization] trusts, by the Tallin and Tartu housing construction combines, the mobile mechanized column No 36, and others.

The rural construction workers have fulfilled the plan for completing fixed capital by 125 percent for the state capital investments, and the plan for capital investments was fulfilled by 108 percent, including by 114 percent for the construction and installation work.

Virtually all (with the exception of the interkolkhoz construction organization in Pylvaskiy Eagon) collectives of the Estkolkhozstroy [Estonian Kolkhoz Construction] Association met the plan quotas. Moreover, they carried out 1,715,000 rubles of construction-installation work above the quarterly plan.

In rural construction projects, higher indicators have been achieved by such mobile mechanized columns of the Sel'khozstroy [Agricultural Construction] Trust of the Estonian Ministroy [Ministry of Construction] as the Payde, Vil'yandi, Yygeva and others.

In the first quarter, the republic Ministroy completed projects of 26 clients including the Union and republic ministries and departments, the executive committees of the soviets, and the public organizations. It is essential to emphasize that for a majority of its clients, the ministry fulfilled and overfulfilled the quarterly plan of construction and installation work.

The first quarter of the year was also completed with good results by the construction organizations of the USSR Mintransstroy [Ministry of Motor Transport and Highways] and Minmontazhspetsstroy [Ministry of Installation and Special Construction]. They completed the quarterly quota, respectively, by 109 and 107 percent, and here achieved a growth, respectively, of 5 and 8 percent in comparison with the corresponding period of last year.

Analysis of the capital construction results for the first quarter shows that the chief shortcoming in the work of the contracting organizations and the entire construction conveyor of the republic (which, as is known, cannot be imagined without a large detachment of clients, building materials producers and their deliverers to the construction site--suppliers and transport workers, designers and other groups of workers) consists in the nonfulfillment of the main indicator for assessing construction, namely, the completion of fixed capital. It was just 64 percent of the plan. The completion of projects was also negatively influenced by the still-found shortcomings in organizing work at the construction sites and in disseminating advanced experience and progressive construction methods. The level of economic work at the construction organizations still does not correspond to the increased tasks. In a number of organizations, labor productivity is not growing, because there is a high above-norm number of

auxiliary personnel, the plans for organizational and technical measures are formally worked out and fulfilled, there is no proper struggle against unproductive losses of working time and material and energy resources, and so forth.

However, equally to blame for the noncompletion of fixed capital, along with the contractors, are other participants of construction, particularly the clients and the suppliers of machinery, equipment and building materials. For example, at present the reconstruction and construction of the mill Iseni I Dekalrya in Sindi is largely held up by the inefficiency of the client in supplying the project with equipment and materials, in organizing the work of the designers at the site, and so forth. But then, for example, in building the mineral fertilizer plant in Kokhtla-Yarva, the client, the Slantsekhin Association, not only very skillfully carried out its direct task, but also by its creative and enterprising actions led all the numerous participants of the major project to an early completion.

The party gorkoms and raykoms have a great role to play in overcoming departmental barriers and in ensuring the smooth and coordinated work of the construction workers. For example, the Narva gorkom, in defining the tasks of the party organization of the city in carrying out the decisions of the November (1979) Plenum of the CPSU Central Committee, thoroughly analyzed the results of construction and disclosed shortcomings which impeded, in particular, the power construction workers from completing last year (incidentally, for a second time) a major project, an industrial experimental unit for the processing of shales.

Upon the initiative of the Narva gorkom, conditions were worked out for the competition of the construction workers to provide unconditional completion of all the planned projects for 1980, and contracts were concluded between the participants of the most important projects for labor cooperation, staffs were set up at each of them for aiding in the prompt completion of the projects, and rigid control was established over the course of carrying out the plans for construction-installation work. As a result, the Narva workers, in having a very taut plan, fulfilled it by 140 percent for the completion of fixed capital, and by 126 percent for the construction-installation work. Here the collective of the Narva construction trust during the first quarter provided a 20 percent increase in the amount of work carried out by its own forces in comparison with the corresponding period of the previous year, and the share of this work in the annual quota for 1980 is 28 percent.

The insufficient coordination between the construction participants, particularly between the contractors and clients, can be seen from the fact that in the first quarter the republic Ministroy, for example, did not fulfill the plan for construction work for almost one-third of its clients. Particularly great was the lag at the projects of the Estonian Academy of Sciences, the Estonian State Committee for Agricultural Equipment, the USSR Ministry of the Paper Industry, the Estonian Ministry of Building Materials Industry, the Estonian Ministry of Motor Transport and Highways, and others.

In the republic, the construction of vocational-technical schools and public health facilities is being carried out unsatisfactorily.

In the first quarter, just 543,000 rubles was used for the construction of hospitals and polyclinics, or 14.9 percent of the annual plan. Particularly disconcerting is the situation which has developed at these projects in Tallin, Kokhtla-Yarva, Tartu and Yygeva.

Recently, the bureau of the ECP Central Committee reviewed the course of construction at public health projects, and demanded that the Estonian Ministry and the Estonian Ministry of Public Health, the city and rayon executive committees of the soviets implement the measures which were worked out for accelerating it. The Bureau of the Central Committee also recommended that the Tallin, Tartu, Kokhtla-Yarva, Narva and Pyarnu gorkoms, the Yygevaskiy, Pylvaskiy and Khaapsaluskiy raykoms strengthen control over the course of building the hospitals, polyclinics and other public health projects. It is essential to do everything possible that the money allocated by the state for strengthening and developing the physical plant of public health be used fully and efficiently so that this goes as rapidly as possible to contribute to the good health of the workers.

Due to the energetic actions by the workers of the republic Gossnab and to the measures taken to improve the production operations of the Punane Kunda Plant, in the last quarter the construction organizations as a whole were rather well supplied with cement and other materials. However at times there is a shortage of not only reinforced concrete and metal articles and elements, but also such in no way scarce materials as brick, slate, lime and sand.

The reason for such a situation is the unstable operation of a number of enterprises and shops in the system of the Estonian Ministry of the Building Materials Industry, particularly such as the Narva Building Materials Combine, the shop for rolled gypsum panels of the Silicate Production Association, the Rakke Lime Plant, and others, as well as the unsatisfactory support of the construction industry enterprises by rail and motor transport.

On 15 April, the Bureau of the ECP Central Committee analyzed the work of the Estonian Ministry of Building Materials Industry in the area of supporting the fulfillment of plans and quotas. The approved decree emphasized that all the economic leaders from the minister to the directors of the enterprises and shop heads, the party, trade union and Komsomol organizations should ensure the unconditional fulfillment of the plans and socialist pledges to produce building materials and to raise labor productivity and the quality of the produced product on the basis of introducing new equipment and advanced experience and making fuller use of internal reserves. The use of fixed capital should be decisively improved. There should be the unconditional fulfillment of the plans for the construction, reconstruction and technical reequipping of the enterprises, and the opening up of completed capacity should be accelerated. For example, it must

not be considered normal that in the second quarter, like in the first, incidentally, the enterprises of the construction industry have understated plans. In practice this means that in the summer months which are best for construction, the construction workers are not receiving many materials and articles.

As before, the republic construction workers do not have enough lumber for normal operations and for creating a backlog which would ensure rhythmical completion of the projects.

Thus, the starting, generally good months of the final year of the five-year plan and days of intense labor competition to properly celebrate the 110th birthday of V. I. Lenin are behind us.

Ahead of us lie the 35th anniversary of the victory of the Soviet people over Nazism in the Great Patriotic War and the 40th anniversary of the restoration of Soviet power in Estonia. The task of the republic construction workers is to prepare for these noteworthy holidays with good labor gifts including new industrial projects, housing, palaces of culture, hospitals and schools, in a word, all that will bring happiness and joy to the Soviet people.

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CONSTRUCTION

RELATIONSHIP OF CONSTRUCTION INDUSTRY, BANKS VIEWED

Bank Credit

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 4 Mar 80 p 2

[Article by G. Murzagaliyev, manager, Kazakh Republic Office, USSR All-Union Bank for the Financing of Capital Investments: "The Bank and the Builders"]

[Text] Our state allocates huge amounts of funds for capital construction. In the CC CPSU's and USSR Council of Ministers' decree "On Improving the Planning and Intensifying the Effect of the Economic Mechanism on Improving Production Efficiency and Work Quality," it is noted that in order to improve matters in capital construction it is necessary to develop and introduce measures to accelerate the introduction of production capacities and reduce the number of newly begun projects and the amount of unfinished construction production. One of the ways of solving this problem is to change over to calculations based on finished construction output.

All participants in the construction process -- planners, customers, equipment manufacturers, installers and so on -- are closely linked by mutual contracts, and the work of each of them affects the final result: the completion of a project and its release for operational use. The fulfillment of the contracts is completed by payment for the completed work and services. In this process, the bank's task is to organize the stable and timely payment of funds to its clients' accounts. The bank pays for completed work and services only with the purchaser's agreement, but within the limits of the funds available in his account or lent to him.

Each participant in the construction process is interested in rapid payment for his own output, so that he can continue working and negotiating with other organizations without difficulty.

Until recently, therefore, the customer gave the construction organization monetary advances and paid for a project in parts, as specified amounts of work were completed. As a result of this, the contracting organization frequently received money regardless of the present state of the project.

The new order for payments differs substantially from the one now in existence. It orients all participants in the construction process to the achievement of the final goal: timely completion and utilization of the project in the national economy. From now on the customer will pay only for a fully completed project that is ready for use. The contracting organization's monetary needs during the construction period are covered by a bank loan that must be paid off within a certain period of time.

With the changeover to the progressive order of payments, the bank's loan resources will increase considerably. They will be replenished with the customers' funds, since the system of intermediate payments and advances has been abolished. As a result of this, there has also been a substantial change in the structure of the contracting organizations' working capital. It has been stipulated that the fixed standard for defraying expenses for incomplete construction must be about 10 percent of the builders' annual volume of work. They will comply with this standard with their own funds. If they are inadequate, a bank loan can be used.

Loans will be granted in accordance with the plan and the estimated value of the work. If a project is not released on schedule, the loan will be extended until it is completed, but with the imposition of a sharply increased rate of interest. In such a case an organization can have large material losses, and the payment of the increased interest rate will reduce its profit considerably.

It should be mentioned that construction outside the plan will also be reduced when the only payments are for finished construction output: a delay or cessation of work for which a loan has been granted will immediately affect the construction organization's financial position in the form of an increase in loans that are not paid off on schedule and the paying of high interest rates.

In order to cover the financing of a project, in addition to the required documents the customer must now present to the bank on the agreement and the construction organization's capabilities to complete the planned work on a project within a given period of time through its own efforts. After this the customer transfers the money he has allocated for construction into special accounts at the bank. From these accounts the bank makes loans to the builders for construction work and pays off projects that are fully completed and accepted by the customer.

It sometimes happens that the customer cannot pay for the finished project because of a lack of funds. In this case the bank can grant the customer a loan, providing that it is paid off in 45 days.

The gradual transition in individual branches to construction financed completely by bank loans is an important measure. The customer accepts the finished project, which is said to be "under lock and key." When this method of extending credit is used, the contracting organizations take on themselves all the expenses related to the construction work, including the

acquisition and installation of the production equipment. The money saved will be reflected in the contracting organizations' profit. This will create an additional stimulus for lowering the cost of construction work.

An important condition for continuity of construction is an uninterrupted supply of equipment and materials for the contracting organizations. Bank loans play an important role in this matter also, since customers can use them to pay for equipment of a production nature for projects before the planned period for its installation.

The bank will also help the construction organizations if they lack funds temporarily, by granting them loans to pay for materials, structures and parts. However, although the bank previously paid for these material goods on the day their financial documents arrived, now the purchaser is given 2-3 days to check their correspondence to the contract executed with the supplier. Considering the special features of payments for finished construction output, the maximum period for repayment of a loan has been increased from 30 to 60 days. However, in order to stimulate payment for construction materials out of the purchaser's own funds, the fee for the use of bank resources has been increased by a factor of 2.5.

Payments between customers and planning organizations will now also be made for fully completed and accepted documentation. The expenses suffered by these organizations before the planned date of release of the plans are covered by their own funds and bank loans. The source of the loan must be money amassed from the customers because of the elimination of intermediate payments. Consequently, for the planners, too, the use of bank loans is directed toward improving the economic mechanism in construction.

In order to increase the interest of builders, planners and customers in the timely release of output, the bonus fund for the introduction of projects on and ahead of schedule has been increased by a factor of 1.5. Its value depends on the builders' adhering to the plans, estimates and quality indicators for the work they do.

The bank's relationships with the participants in construction will, of course, depend on their work. Organizations that fulfill all the plans will pay a reduced interest rate on loans. When a project is released for use ahead of schedule, the loan interest rate will be halved.

The possibility of obtaining a loan does not relieve purchasers of their obligation to make payments on time. If a construction organization does not meet the basic indicators and experiences protracted financial difficulties because of its own mismanagement, it can obtain a loan only if specific measures aimed at improving its work are implemented. If these measures are not implemented, the loan will be continued only under a guarantee from a higher organization and with the imposition of a higher interest rate. If the organization does not improve its activities, the bank will break off credit dealings with it.

Thus, the bank guarantees payment for all work and services executed in accordance with concluded contracts, thereby insuring the timeliness of payments and the normal operation of organizations.

This system has already been tested in practice and has yielded positive results: there was an increase in the volume of completed commercial construction output released for use in the national economy and the construction of projects was speeded up. The extension of bank loans to construction organizations contributes to the strengthening of state payment and settlement discipline and promotes the fulfillment of plans for the timely introduction of capacities and projects.

The introduction of this progressive order of payments requires a significant improvement in the work of both bankers and participants in the construction process. In order to do this, it is necessary to master new economic methods so that they can be actively used in practice this year.

Stroybank Clamps Down

Moscow STROITEL'NAYA GAZETA in Russian 11 May 80 p 2

[Article by S. Shteynberg, correspondent, Primorskiy Kray newspaper KRASNOYE ZNAMYA, Vladivostok: "The Stroybank Clamps Down -- Unexpectedly for the Builders of the Primor'ye"]

[Text] The CC CPSU and the USSR Council of Ministers issued a decree on improving planning and the economic mechanism 6 months ago. It emphasized the necessity of intensifying the role and expanding the functions of a financing bank. However, the economic leaders did not think through the question of how and when this was to happen. And this is what happened...

The crews of the Vostoksel'elektroset'sstroy trust's mechanized column No 16 began working heatedly this year: in January, work worth 96,000 rubles was completed on 9 projects. However, their happiness was short-lived. A letter arrived from the Stroybank [All-Union Bank for the Financing of Capital Investments] office. It said that work was being done on projects that had not been accepted for financing, so all of the sum mentioned above should be eliminated. The letter, which was addressed to N. Suprunov, leader of the mechanized column, and G. Simonova, manager of the Ussuriysk branch of Stroybank, ended with the following words: "Report to the CPSU Gorkom on this gross infringement of planning discipline. Adhere strictly to USSR Stroybank's Order No 445, dated 14 December 1979."

At about the same time, subunits of the Sudpromstroy trust began building schools and residences in Vladivostok. Construction and installation work in the amount of 40,000 rubles was completed. And again, because of the organization of work on projects that had not been accepted for financing, this sum was subtracted from the trust's completed work list. It was subtracted from that construction and installation administration whose work crews had poured the foundations.

Analogous events occurred in Nakhodka and other cities and settlements in Primorskiy Kray. In January alone the Primor'ye's builders did work worth 1.8 million rubles on projects that had not been accepted for financing. In each case, Stroybank was up in arms.

Previously, this did not happen. The builders were clearly not ready for such sudden strictness on the part of a former partner. Passions boiled -- and continue to boil -- within the bank's walls, and intercessors from the most variegated levels are besieging the office. The disrupters of planning discipline are under threat of having to pay wages, the quarterly plan, bonuses...

Someone pointed out that the bank has started to use its new rights like a bludgeon: say, we are building what is necessary, so do not interfere with us, but be happy!

However, should new construction always be a reason for rejoicing? Now the bank is not approving every construction project, and in this it is thoroughly correct.

Incomplete construction work was always being criticized. The criticism was so constant that the leaders of construction organizations in the Primor'ye and their enterprises customers simply became accustomed to it. In construction economics, there is an indicator: the ratio of the amount of unfinished construction work to the amount of capital investments. When it does not exceed 65 rubles per 100, all is normal. In the Primor'ye, however, this ratio has become an equality: for every 100 rubles of capital investment, there are 100 rubles of "incompletes." As clear as day, this equality confirms the fact that the builders in the kray have not learned to concentrate their forces and material resources on projects already under way.

Last year the plan for the introduction of fixed capital was only 77 percent fulfilled. However, as we have seen, this in no way hindered the development of construction outside the plan this year. Indeed, this year became special only after the party and the government issued the important document mentioned above.

"Although previously we were instructed to strive against incomplete construction, now we have received a strict order," notes V. Lomnovskiy, the manager of USSR Stroybank's Primorskiy Kray office. "The time when our basic weapons against the dissipation of resources were talk and reprimands has ended. Now we must build, as we live, only within our resources."

The bank is now clearly orienting both the customers and the builders: they must, in every way possible, increase the effectiveness of the utilization of those vast material resources that the state directs to the branch. In order to do this, it is first of all necessary to work on priority projects and those already under way. In general, this is a truism that was already known. Now the bank is calling it to mind not with words, but with

sanctions. It is true, however, that the bank is not always successful in bringing what has been begun to completion.

The Primorkraysel'stroy administration's collective has a good reputation in our kray. This year the administration changed over to a new system of management. Last year it worked energetically on this transition. Nevertheless, work has been begun on 17 new projects that are only partially covered by its resources. Naturally, "incompletes" appeared. The bank punished the administration to the amount of 2.1 million rubles. However, the ministry immediately took pity on one of its best administrations and rendered it temporary financial assistance in this amount.

We would like to emphasize that nowhere in the kray is there a city or village without new construction. For all practical purposes, however, there is not populated point without its own "old new construction." Unfortunately, we are still frequently building beyond our means.

Let us just take a look at a brewery near Vesennyaya Station. A "hoary" project has already been under construction for a year and imported equipment is rusting and becoming useless. The foundations and frameworks at dozens of other sites in the Primor'ye are quietly aging and falling down. How long will we keep building without resources?

"Not for long," is the firm answer given in Stroybank's Primorskiy Kray office, "because our life does not permit this any more."

This year's new economic features concern not only the builders, but also the customers. It has been decided to limit the maximum number of newly begun construction projects. A customer has a right to begin new projects only if he insures the financing of all the ones that are already under way. All of these are correct, state-justified measures.

Stroybank now has the right to halt financing for a project, amend reported data and eliminate sums for completed work. The bank's rights have been enlarged immeasurably and there has been a sharp increase in its control over the future construction program of every construction organization, while loan action measures have become more flexible.

"If, despite our objections, construction work is not halted," says V. Lomnovskiy, "we can suspend the extension of credit to enterprises for all types of loans. And, I will add, such measures have already been used."

The builders turned out not to be ready for such strictness from the bank. As recently as a year ago, the bank rarely punished them for construction work done outside the plan. But when "Form No 7" arrived in May and June, they were all stopped in their trunks...

Now all the weight of the financial "pressure" lies on the builders' shoulders. Meanwhile, it seems, by right they should share the responsibility for their transgressions with those who provoked them: the customers. When

we were in the Stroybank office talking about the projects begun by mechanized column No 16, the question was put directly to Dal'energo's representative: "Was it really necessary to start working at all 10 sites?"

"It was not," he answered, just as directly.

This means that the work had been viewed from the "volumetric" aspect only.

The special feature of this year is that from the sphere of emotional responsibility for the dissipation of resources we have moved in the sphere of material responsibility. In answer to this, the builders can still only raise obsolete stereotypes. Estimates have not been agreed upon or confirmed and the famous "Form No 7" has not yet arrived, but the builders are still hurrying: begin a project, then see if someone will come to our assistance, if...

The measures that Stroybank has begun to implement in Primorskiy Kray are both correct and substantiated. The builders are already sick of them: they are not accustomed to dealing with strictness. However, the finished project is becoming the rating criterion.

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CONSTRUCTION

CONSTRUCTION OF LENINGRAD FLOOD BARRIER DETAILED

Moscow TRANSPORTNOYE STROITEL'STVO in Russian No 4, Apr 80 pp 16-19

[Article by S. S. Agalakov, chief engineer of the Leningrad Division of Gidroproyekt [All-Union Design, Surveying and Scientific-Research Institute imeni S. Ya. Zhuk]: "A Set of Structures for Protecting Leningrad from Sea-Surge Floods"]

[Text] The CPSU Central Committee and the USSR Council of Ministers, attributing important national-economic and local social and economic significance to the protection of Leningrad from sea-surge floods, in August 1979 adopted the decree, "On the Construction of Structures to Protect the City of Leningrad from Flooding," which calls for the construction and introduction into operation of a protective complex during the period 1979-1990. At the initiative of the Komsomol Central Committee, construction of the structures for protecting Leningrad City from flooding has been declared an All-Union Shock-Work Komsomol Construction Project.

Floods in Leningrad recur practically every year, resulting from the effect of cyclones in the Baltic Sea and Gulf of Finland area.

Catastrophic floods that caused the city the greatest material damage and were attended by human fatalities occurred in 1777, 1824 and 1924, when waters in the Neva River delta reached levels, respectively, of 3.21, 4.21 and 3.80 meters. Design analyses and scientific research have proved the possibility of a surge rise in the Neva River delta of up to 5.40 meters, at which time 33 percent of the developed area within the boundaries of the master plan for developing Leningrad would be submerged.

The head organization for developing the design for protecting Leningrad from flooding is the collective of the Leningrad Division of Gidroproyekt imeni S. Ya. Zhuk, which in 1967-1969 drew up a feasibility study and in 1972-1977 developed a preliminary design for the defense of Leningrad City from floods. Specialists and scientists of 52 leading design-development, scientific-research and other organizations from Leningrad and from elsewhere in the country participated in developing the preliminary plan.

The feasibility study, taking into account both the present and prospective needs of developing Leningrad, examined all possible options for protection. In so doing, two main options—the western and the eastern—were worked out and studied in the greatest detail.

The western variant calls for the construction of a set of protective structures in the area where Neva Bay borders on the gulf of Finland, on the Gornaya-Korshakovo-Lomonosov line, which would enclose the water body of Neva Bay, an area of about 400 sq km kilometers with a water volume of 1.7 cubic kilometers.

The eastern variant proposed the siting of one set of structures at the mouth of the Neva, along the maritime coast of the city's built-up area, and the construction of a hydraulic-engineering complex in the middle course of the Neva River.

A comparison of the options indicated that the western variant was optimal, possessing indisputable advantages over the eastern one in all indicators, the main ones being high reliability, economy and more favorable conditions for construction.

The preliminary design for the western variant received a high appraisal from State Expert Review, and it was approved in December 1976.

Sea-burge Finnish surge in Leningrad as a result of a complicated interaction of meteorological and hydrological processes that occur in the Baltic Sea and the gulf of Finland. These processes are associated with a disturbance of the equilibrium of water masses of the Baltic Sea and the Gulf



Nevskiy Prospekt after the 1924 Flood.

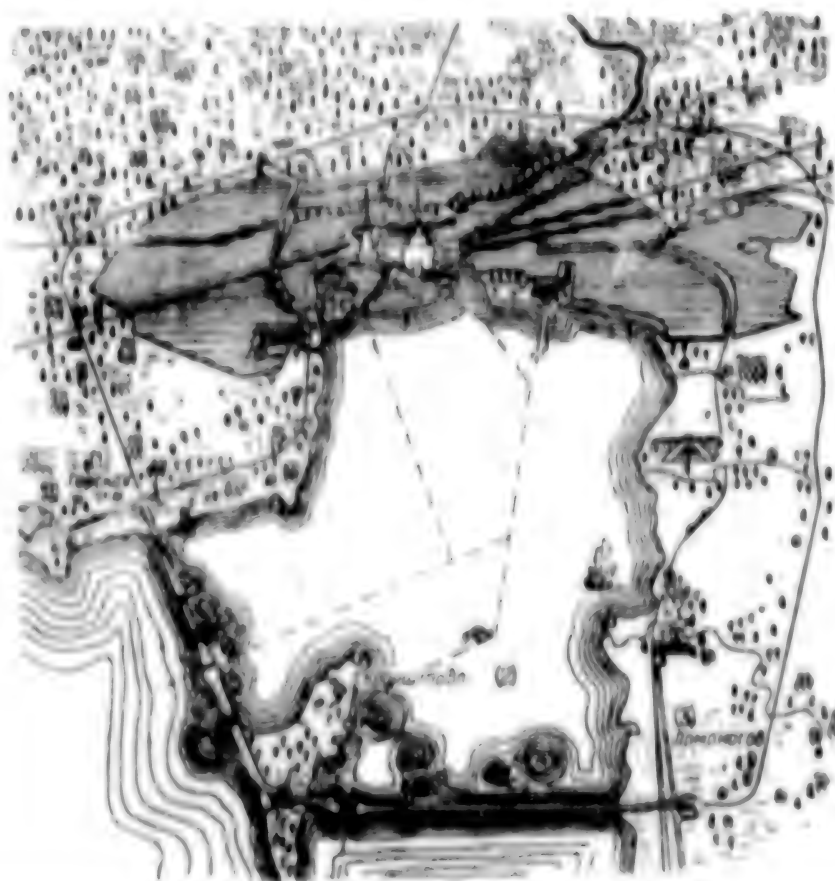


Telegraph Line Destroyed by an Ice Pile-up, 1973.

Diagram of the Protective Structures and the Highway.

Key:

1. Gorskaya.
2. Kronshtadt.
3. Lomonosov.



of Finland when cyclones pass over them and with the formation in the Baltic sea, after the cyclone leaves the water for dry land, of a long rolling sea. The long rolling sea from the Baltic enters the Gulf of Finland and, advancing along it, arrives at the Neva River delta. In combination with a wind surge and standing-wave and tidal fluctuations of the Gulf of Finland's water level, it causes short-term but sharp rises in the water level in the eastern part of the Gulf of Finland and the Neva River delta. In so doing the crest of the long sea rises steadily as it advances on Leningrad because of a narrowing of and a reduction in the depth of the gulf. On the average, when there is no wind or a mild wind, and if there is no ice, the height of the long sea on the segment from Tallin to Leningrad increases 2.5-fold.

Characteristic features of the surge floods are suddenness, brevity and great intensity in the rise and fall of the water level. Advance warning of the maximum level averages about 4-8 hours but in some cases this is reduced to 3-4 hours. Duration of the flooding is measured in hours and does not exceed a day.

The intensity of the rise and fall of water level during surges varies from several centimeters per hour to a meter per hour, and even higher.

Large floods are accompanied by storm winds that reach speeds of 30-40 meters per second in gale and by the formation on the gulf's water area of wind waves that possess great destructive force.

In the winter, as a result of the effect of the long sea and westerly storm winds on the ice, the floods are accompanied by great debacles of the ice cover from west to east, which cause strong hummocking of the ice on the shores, shoals, islands and forts and other structures on the water body. Hummocking height reaches 6-8 meters.

Floods have been recorded in all months of the year, including the winter, but most dangerous is the fall period, during which about 70 percent of all the floods occur, including the largest and most catastrophic floods.

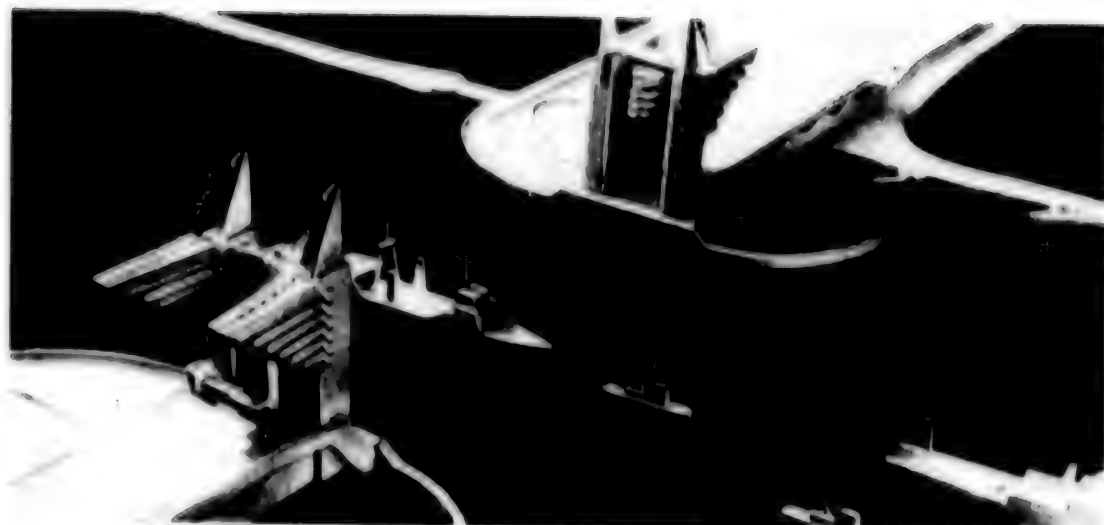
Observations and research indicate that when there are surge floods that are marked by an intense rise of water in the Neva River delta, a discharge of up to 100,000 cubic meters of water comes through the Gorskaya-Kronshtadt-Lomonosov line into Neva Bay from the Gulf of Finland, while the average discharge of the Neva River, over many years, is about 2,500 cubic meters per second.

According to the approved preliminary design for the set of structures to protect Leningrad from sea-surge floods, the total length of the line will be 28.4 kilometers, and it will be built in the area where Neva Bay borders on the Gulf of Finland, in alignment with the forts of the former Kronshtadt fortress, along the line Gorskaya settlement-Kronshtadt city-Lomonosov city.

The route chosen for the protective structures has favorable engineering-geology and geological and topographic conditions and best answers the requirement for high reliability of operation of the protective system and the water-transport, construction, ecological and economic requirements that correspond to the master plans for the cities of Kronshtadt and Lomonosov. It will enable construction of a first-category highway, which will become a part of the outer ring road around Leningrad.

The protective complex will include two ship-navigation canals with spans of 200 and 110 meters wide for the navigation, respectively, of seagoing ships and ships of the local fleet; six water-passage structures, each 80-110 meters in length, which will include 64 openings, each 24 meters wide on the inside, through which the water will pass; 11 rock-and earth protective levees; a six-lane highway with tunnels under the ship-navigation canals, bridges across the water-passage structures and transport isolators on the shores of the gulf and on Kotlin Island; and other structures.

The location and layout of the navigational structures were determined by the existing prerequisites for navigation in Neva Bay. They were designed for the routes of the existing navigation channels within the southern and northern entrances of Neva Bay and have navigation spans equipped with quick-acting metal gates on rollers that will shut off these spans when flooding is threatened.



Ship Navigation Structure at the Neva Gulf's south side on the Ship Channel

Safe conditions for passing ships through the navigation spans and on the approach channels thereto will be provided by modern navigational equipment that includes a remote-control system and radar installations, as well as lighted panels with information about the levels and flow speeds of the water in the navigation spans.

The location of the water-passage structures (two in the southern and four in the northern gates of Neva Bay), their layout, and the area of the clear opening of the span were chosen with a view to providing for a good flow of water in Neva Bay and an intensification thereof in the area of the protective structures on the shores of the gulf and on Kotlin Island, preservation of the natural water-stage regime, and a mixing of water that is close to the natural mixing during fluctuations of the water level in Neva Bay and the Neva River delta from the -1.50 meter level, when the water level drops because of the wind, to levels of 1.6 and 1.8 meters, during surge floods of the water.

Rises of water in the Neva River delta higher than 1.6-1.8 meters cause flooding in Leningrad. Therefore, when there is danger of the appearance of such phenomena, Neva Bay will be cut off from the Gulf of Finland for 30 minutes by the protective structures.

Each water-passage structure has 10 or 12 holes 24 meters wide and 2 or 2.2 meters deep. All the openings of the water-passage structures are equipped with radial metal gates which, under ordinary conditions, will be raised, will be on truck supports, and will not interfere with the flow of water in the openings. The openings will be closed up only during major surges of water that can cause flooding in the city.

The total area of the clear opening of the gaps in the water passages and of the navigation-structure spans is 9,610 square meters. It is interesting to note that the cross-section area of the Neva River and all its branches at the line of the Mining Institute is 6,500 square meters.

When a forecast of flooding is received, the water-passage structures and the navigation-structure spans will be covered by the radial gates and the rolling gates in 30 minutes at any time of the year, even in winter when there is an ice cover on the water area. In order to get reliability of operation of the protection, all the structures are equipped with redundant mechanisms for closing and opening the gates.

Control of the radial and rolling gates at the water-passage and navigational structures has been automated and is executed from a central control desk and also from grouped and local control consoles.

Rock-and-earth levees complete the sections between the water-passage and the ship-navigation structures and overlap Kotlin Island and the lower shores of the Gulf of Finland. The summit of the wave-deflecting wall of the protective levees will rise above the gulf's water area by 8 meters under natural conditions.

The model and design of the protective levees have been adopted to take into account the existence of local building-material quarries, the construction conditions, and the recommendations of the scientific-research organizations that are studying protective levees that are attacked by waves and ice.

A six-lane highway of the first category, which will be included in the outer ring road around Leningrad and whose length will be 150 kilometers, will run over the protective structures. The highway will pass under the navigation channels in underwater tunnels, and the water-passing structures will be crossed by reinforced-concrete bridges.

The concrete ship-navigation and water-passing structures and the motor-transport tunnels will be erected in a dry state, behind cofferdams of various designs: rock and earth, cellular--made of metal sheet piles, welded reinforced-concrete members, and others.

It has been planned to build the protective structures from the northern and southern shores of the gulf and from Kotlin Island, where construction-operating bases will be created.

Work volume for the complex of the main protective structures and the cofferdams that will enclose the foundation pits for the concrete water-passage and ship-navigation structures is characterized by the following indicators:

Excavation of soft soil.....	21,300,000 m ³
Soft-soil fill.....	36,700,000 m ³
Obtained from excavation operations.	13,700,000 m ³

Fill from rocky ground and outsize rocks...	4,825,000 m ³
Crushed-rock fill.....	940,000 m ³
Concrete and reinforced-concrete laying....	2,070,000 m ³
Erection of metal structure and equipment..	40,000 m ³

The construction work is to be provided with local building materials by excavating at the Veshchevo sand-and-gravel quarry and the Sysoyevskiy rock quarry, which are located in Vyborgskiy Rayon of Leningrad Oblast, as well as by the excavation of underwater quarries in the water area of the Gulf of Finland--the Sestroretskiy, Londonskaya-Shoal and other quarries.

While developing the preliminary design for protecting Leningrad from floods, special attention was paid to hydrometeorological, hydrological, and hydraulic studies and to questions of protecting the natural environment.

More than 20 of the country's leading scientific-research institutes performed broad research on this problem. Along with an analysis of the modern state of the Neva River and Neva Bay of the Gulf of Finland, hydrological, hydrochemical, hydrobiological, microbiological, ichthyological and biological-sanitation studies were made that enabled development of a forecast up to the year 2000 of the quality of water of the Lake Ladoga-Neva River-Neva Bay of the Gulf of Finland water system.

The results of the research performed are a reliable foundation for ecological substantiation of the design for the complex of defenses of Leningrad against flooding.

The research conducted indicated that the protective complex that is to be built, with the open gaps of the water-passage structures and the spans of the ship-navigation structures, will not adversely affect the hydraulic or hydrological regimes of Neva Bay. The structures will not change the natural water-level regimes, the system of currents, or the temperature or ice regimes and will not prevent the penetration of subsaline waters into the bay. The protective structures will not adversely affect the reproduction of fish reserves and will not destroy the migration routes of young fish and skates in Neva Bay.

Research has established that when the gates of the water-passage and ship-navigation openings are closed, the maximum level of flooding to the west of the protective structures can be raised somewhat: directly at the structures by 2-10 percent of the natural rise, but as the distance to the west increases, this effect of the structures will be reduced and there will be no effect at all at a distance of about 100 kilometers from the line of structures.

When the water-passage and ship-navigation openings are closed, the maximum rise in the level within the enclosed portion of the Neva Bay water can reach 1.6 meters because of the flow of the Neva River and surge of

tides forces, and, in so doing, the rise in the level through the discharge of the Neva River will be 2.0-2.5 centimeters per hour.

Research has indicated that a favorable sanitary state within the Neva Bay water area will be restored and improved with the entry into operation of the purification structures of the city sewerage system on the northern and southern shores of the Gulf of Finland and on Belyy Island, and also as a result of the implementation of water-conservation and nature-conservation measures and the use of the regulative potential of the protective structures for improving the flow of the various zones of the water area. It must be noted that the protective structures will promote normal functioning of the combined sewer system and uninterrupted operation of the city's main purification installations and completely avert the emergency situations that are unavoidable in the complex of this system during floods, when the sewer interceptors are flooded by the Neva's waters and the purification structures are within the flood and wave-action zone of the Baltic Sea and the Gulf of Finland.

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BUILDING MATERIALS

BALANCING SUPPLY, DEMAND IN BUILDING MATERIALS

Administrative Approach

Moscow NA STROYKAKH ROSSII in Russian No 1, Jan 80 pp 24-27

[Article by I. Galkin, chief of a department of IVTs [Computer Information Center] of Glavzapstroy [Territorial Main Construction Administration for the Western Areas of the RSFSR] of USSR Minstroy [Ministry of Construction] entitled "The Control of the Process of Balancing Resource Supply and Demand"]

[Text] The solution of the problem of the operational modification of nomenclature plans for ZhBI [reinforced concrete products] plants reduced the imaginary deficit and actual reserve of their capacities. The mean coefficient for project completion is 0.91. The control system for balancing and developing plant capacities lies within the complex of local ASUs [Automated Control Systems].

The main factors that influence the imbalance of resource supply and demand in the construction industry are the change in the structure and volume of construction and installation projects; the expansion of construction zones; scientific and technical progress (new plants are being built and new structural forms and materials are being used); the absence of an effective classification system for structures, products and materials in the development of the construction parts of the plans; inadequacies in planning, and peculiarities of construction engineering and the utilization of resources.

Here are several examples from the activities of Glavzapstroy that confirm these reasons for the imbalance. Over a 15-year period the volume of construction and installation projects under the main administration has grown by a factor of 1.34, whereas in rural areas it has more than doubled in the last five years. The construction zone of large-scale industrial projects has expanded: at present construction is going on in Kirishi, Kingisepp, Syas'troy, Luga etc. Plans for projects that are erected by organizations of Glavzapstroy are being drawn up by more than 120 planning

institutes. Many of these plans are filled with an unjustifiably large nomenclature of standard, indexed, and non-standard prefabricated reinforced concrete, metal structures and materials. It is usually planned that construction will begin on 60 to 70 percent of the projects during the first quarter and will be concluded at the end of the year. And finally, the diagrams of the utilization of individual classes and types of resources by the construction projects are noted for their extreme unevenness.

All of this leads to a violation of the balance between the demand for and capability of supplying resources to construction projects according to nomenclature, capacities and time and area parameters. Analysis has indicated that this process of imbalance is an objective and constantly present factor.

A violation of the balance between resource supply and demand leads to a decline in the technical and economic parameters of the activities of construction organizations: to an inefficient utilization of existing plant capacities, to the formation of a reserve of some products and a deficit of others and to a failure to fully provide projects with resources. A completely natural question arises in connection with this concerning the need to measure and analyze the level of balance between resource supply and demand according to nomenclature, capacities and time and area parameters in order to control the process of the balancing and proportional development of the capacities of construction industry enterprises. Glavzapstroy's eight years of experience in using an automated system for the operational control of the provision of construction projects with sets of prefabricated reinforced concrete (ASU-ZhBI) has shown that unless this problem of balancing is solved, it will be impossible to sharply increase the effectiveness of resource control.

The criterion of optimal fulfillment that was adopted in the development of the ASU-ZhBI is the provision of the maximum quantity of construction projects with sets of prefabricated reinforced concrete, with consideration given to the priority of the projects, a lowering of transportation costs and an increase in the workload of the plants. In principle, the ASU-ZhBI is fulfilling this criterion in its operations: the especially important projects were supplied first, followed by less important ones etc. But the mean coefficient for supplying them ($q_{\text{mn}} = N^1/N$, where N^1 is the number of projects that have been completely supplied and N is the overall number of projects in a given quarter) turned out to be extremely low (0.7). In addition to this, in 1971-1974 the quarterly capacity reserve in the ZhBI plants of the main administration was 60 - 80 thousand m^3 , whereas the total capacity deficit by individual product groups was 10 - 12 thousand m^3 , given an overall quarterly plant output plan of 200 thousand m^3 of prefabricated reinforced concrete. In 1976-1977, the relationship between the demand and output plan for prefabricated reinforced concrete changed: the size of the quarterly demand began to exceed the overall plans for ZhBI plants. (See the following table).

	Quarters			
	I	II	III	IV
Plant output in thousands of m ³	193	183	208	180
Demand for prefabricated reinforced concrete by construction projects ...	155	238	231	193
Total idle capacities	+38	-55	-23	-13
Total capacity deficit by product groups	31	73	60	37
Capacity reserve by article groups...	69	18	37	50

In analyzing the indicators for the output plans and demand for prefabricated reinforced concrete by quarters for 1977, one can conclude that the existing imbalance of supply and demand is being further aggravated by the disproportionate development of ZhBI plant capacities in comparison with the increasing demand. It is completely natural that this also resulted in fewer construction projects being fully supplied.

Two problems aimed at balancing the supply and demand for prefabricated reinforced concrete were included in the operational planning subsystem of ASU-ZhBI: an operational modification of plant nomenclature plans (APZ-ZhBI) and an operational modification of output and supply plans (APD-ZhBI) (Figure 1). The first problem reveals in the form APZ-01 which plans for the overall demand for prefabricated reinforced concrete by individual construction projects and which overall plans for plant output of it according to product groups, nomenclature, capacities and zones (two macro-and five microzones have been adopted within Glavzapstroy) are comparable, and in the form APZ-02, which plans according to nomenclature, capacities and time (months of the quarter) are comparable. In addition to comparable quarter monthly plans, capacity deficits and reserves are calculated for each product group. (By product group is meant the totality of brands of prefabricated reinforced concrete produced in identical forms or molds). Overall plans for capacity demand, production, reserve and deficit are also calculated for all product groups. The directors of the main administration, the Zapstroykomplekt trusts and the construction industry, as well as of the ZhBI plants, are adopting solutions based on this information for modifying the nomenclature plans of the ZhBI plants while taking individual project demands into consideration.

The first attempt at solving problem APZ-ZhBI in 1974 produced very interesting results: after plant nomenclature plans were adjusted, the imbalance for nomenclature and capacities was reduced (the deficit fell from 18 to 9 thousand m³), whereas the full supplying of construction projects and the plant workload increased by 10 percent (which, by the way, without any additional expenditures) and the imaginary deficit and real reserve of ZhBI plant capacities were reduced.

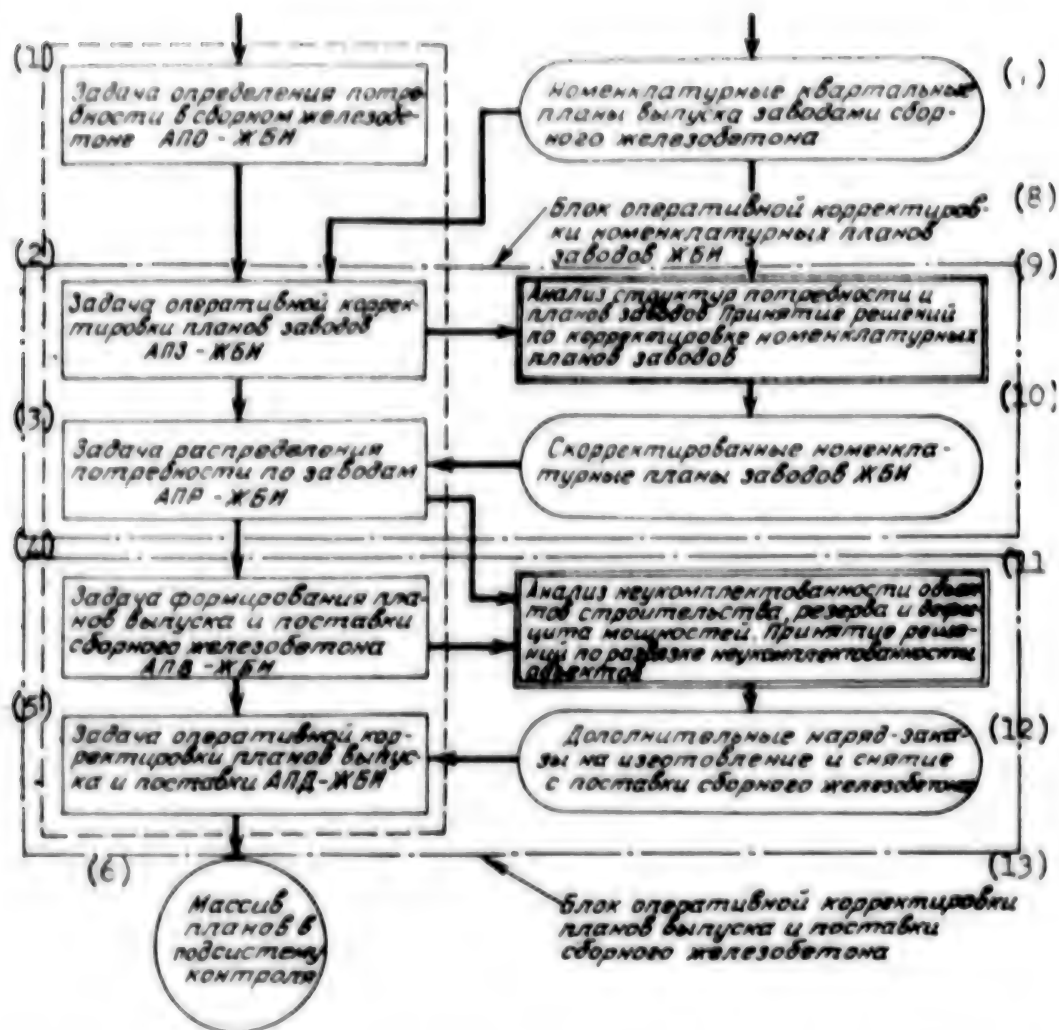


Figure 1. Main flow chart for the process of balancing supply and demand for prefabricated reinforced concrete at the operational planning stage (AP-ZhBI).

Key:

1. Problem for determining the demand for prefabricated reinforced concrete APO-ZhBI.
2. Problem for the operational modification of plant plans APZ-ZhBI.
3. Problem for the distribution of the demand among plants APR-ZhBI.
4. Problem for formulating output and supply plans for prefabricated reinforced concrete APV-ZhBI.
5. Problem for the operational modification of output and supply plans APD-ZhBI.
6. Plan array to be included in the control sybystem.
7. Quarterly nomenclature plans for plant output of prefabricated reinforced concrete.

[Key continued on following page]

8. Bloc for the operational modification of ZhBI plant nomenclature plans.
9. Analysis of the structures of demand and plant plans. The adoption of solutions for modifying plant nomenclature plans.
10. Modified nomenclature plans for ZhBI plants.
11. Analysis of the failure to fully supply construction projects and of capacity reserves and deficits. The adoption of solutions to resolve the failure to fully supply projects.
12. Additional work orders for the manufacture and removal from supply of prefabricated reinforced concrete.
13. Bloc for the operational modification of the output and supply plans for prefabricated reinforced concrete.

The solution of problems dealing with the distribution of the demand for prefabricated reinforced concrete among plant manufacturers (APR-ZhBI) and the formulation of plans for the output and supplying of prefabricated reinforced concrete has made it possible to calculate capacity reserves by plants and capacity deficits by product groups (forms AP-10 and AP-11) and the failure to fully supply prefabricated reinforced concrete by projects, SUs [construction administrations], trusts and the main administration (forms AP-01N-04N). An analysis was conducted on the basis of the given information and solutions were adopted for resolving the failure to supply prefabricated reinforced concrete for each construction project by producing brands in short supply on underloaded production lines, utilizing internal ZhBI plant reserves, manufacturing products at subassembly bases, etc. These solutions have been reflected in the drawing up of supplementary order lists. The problem APD-ZhBI calculated them on the EVM [computer] and modified earlier formulated plans. All of these measures to increase the balance between supply and demand have made it possible to raise the mean coefficient for fully supplying projects to 0.91 (Figure 2).

Four years of experience in using problems to balance the supply and demand for prefabricated reinforced concrete at the operational planning stage have resulted in the following conclusions. The process of balancing the supply and demand for prefabricated reinforced concrete must be controlled at all levels--the project, plant, SU, trust and main administration levels--and at all stages of planning--long-range, annual and operational. The balancing should be carried out according to nomenclature, capacities and temporal and regional parameters. The process of the proportional development of ZhBI plant capacities according to nomenclature, capacities and zones must also be controlled at all levels (plant, trust, construction industry and main administration) and at all stages of planning.

The degrees of authenticity, reliability and operativeness of the control systems for balancing the supply and demand for prefabricated reinforced concrete and developing the ZhBI plant capacities should correspond to the degree of authenticity, reliability and operativeness of the control system for resources and prefabricated reinforced concrete.

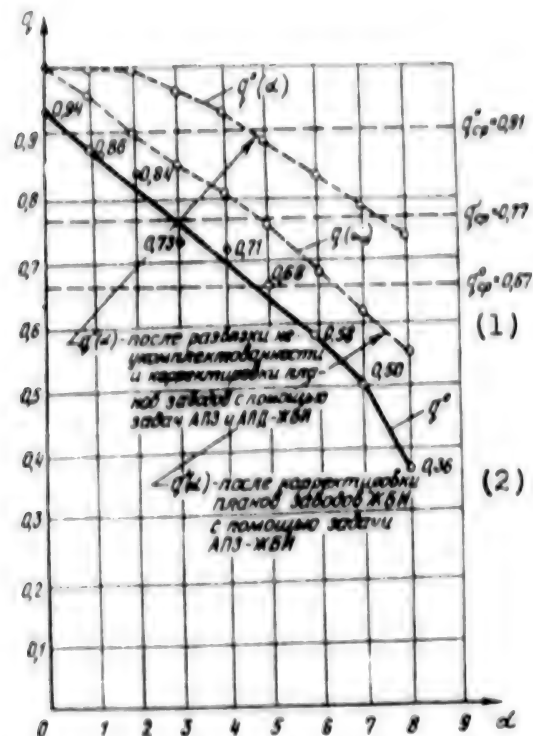


Figure 2. Diagram for fully supplying construction projects with reinforced concrete relative to priority groups.

Key: (subscript sr throughout is 'mean')

1. After resolving the supply failure and modifying plant plans with the help of problems APZ and API-ZhBI.
2. After modifying ZhBI plant plans with the help of problem APZ-ZhBI.

Since it has not been possible to solve all of these problems at the operational planning stage, it was proposed that a complex of local ASUs for controlling prefabricated reinforced concrete (KASU-ZhBI) be developed and created (Figure 3) and that a special system for controlling the balancing and development of plant capacities--ASR-ZhBI--be included in it.

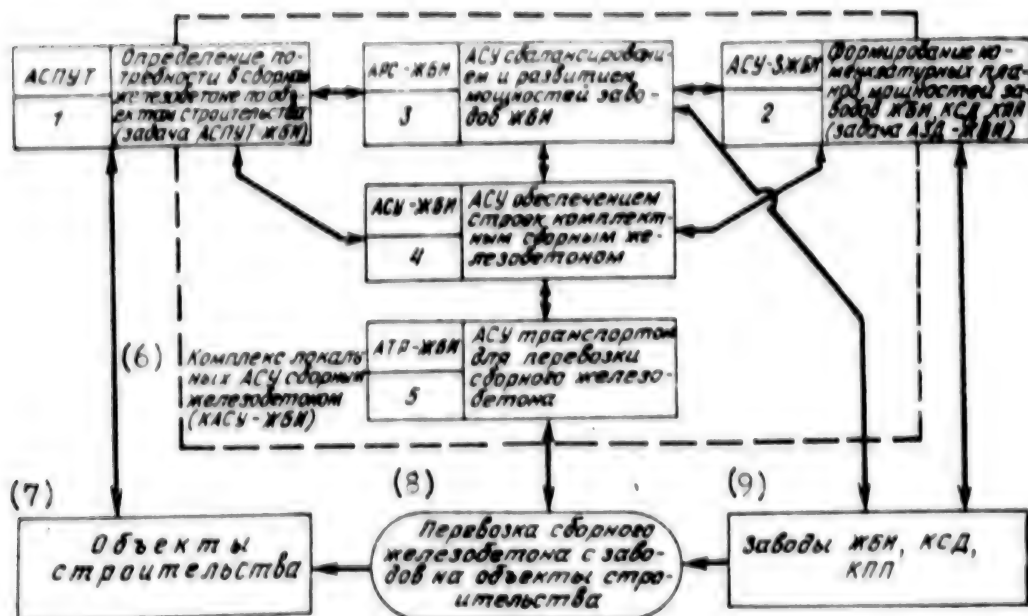


Figure 3. Main flow chart for the complex of local automated systems for controlling prefabricated reinforced concrete (KASU-ZhBI).

Key: (1-5 follow the numbering of the original diagram).

1. ASPUT [Automated Programmed Control System??]--Determination of the demand for prefabricated reinforced concrete by individual construction projects (problem ASPUT-ZhBI).
2. ASU-ZZhBI--Formulation of nomenclature plans and ZhBI, KSD and KPP plant capacities (problem AZD-ZhBI). [expansions of KSD and KPP unknown]
3. ARS-ZhBI--ASU for balancing and developing ZhBI plant capacities.
4. ASU-ZhBI--ASU for providing construction projects with sets of prefabricated reinforced concrete.
5. ATR-ZhBI--ASU for transport, for moving prefabricated reinforced concrete.
6. Complex of local ASUs for prefabricated reinforced concrete (KASU-ZhBI).
7. Construction projects.
8. Transport of prefabricated reinforced concrete from the plants to the construction projects.
9. ZhBI, KSD and KPP plants.

ASR-ZhBI (Figure 4) is made up of the following subsystems: the formation of a data base for the demands for prefabricated ZhBI, nomenclature plans and plant capacities (AD-ZhBI); the control of balancing the supply and demand for prefabricated reinforced concrete (AS-ZhBI); the control of the development of plant capacities (AR-ZhBI) and the analysis of the balance and development of capacities and technical and economic indicators (AB-ZhBI).

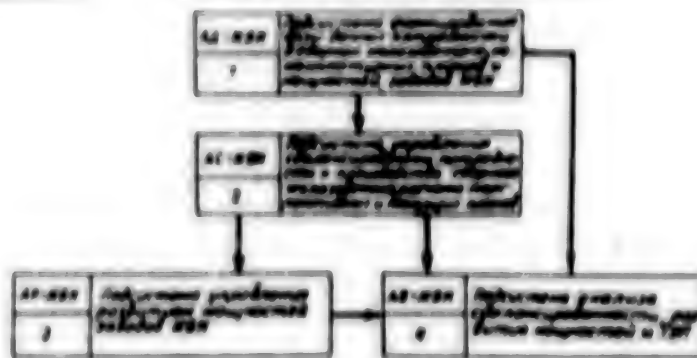


Figure 4. Main flow chart for the ASU for balancing and developing ZhBI plant capacities (ASR-ZhBI).

Key: (Numbering follows original)

1. AD-ZhBI--Subsystem for the formation of a data base for the demand for prefabricated reinforced concrete and for ZhBI plant nomenclature plans and capacities.
2. AB-ZhBI--Subsystem for controlling the balancing of supply and demand for prefabricated reinforced concrete and for calculating long-range and current plans.
3. AR-ZhBI--Subsystem for controlling the development of ZhBI plant capacities.
4. AH-ZhBI--Subsystem for the analysis of the balance and development of capacities and TEP [technical and economic indicators].

The creation of a complex of local ASUs for prefabricated reinforced concrete will also make it possible to solve a number of other problems and thereby to sharply increase the effectiveness of controlling construction stockpiles. This system should control the process of the balancing and proportional development of plant capacities at the long-range and annual planning levels and should also formulate long-range and annual plans for the output and supply of prefabricated reinforced concrete. It is proposed that the problems of balancing and achieving an optimal distribution be resolved at the long-range and annual planning stages by analogy with the methods that have been adopted and put into effect at the operational planning stage.

The proposed methodology can be used to solve analogous problems in the control of non-stockpiled resources (by general contract and subcontract organizations, mechanization and transport trusts etc.), i.e. ways are being found to optimally control the process of the balancing and proportional development of large-scale construction organizations--republic ministries of construction, main construction administrations and TUS

[Territorial Construction Administrations??). This will allow the effectiveness of production and the productivity of labor to increase sharply and the capacities of the construction organizations to be utilized efficiently.

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Supply Side Examined

Moscow MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE in Russian No 3, 1980 pp 8-12

[Article by N. Arkhipets, deputy chairman of USSR Gosstab, entitled "Supplying Construction Needs According to Plans and Estimates"]

[Text] The November (1979) Plenum of the CPSU Central Committee devoted a great deal of attention to such a major state problem as capital construction. And this is understandable. The indicator of our economy, the rate of scientific and technical progress in the country and the efficiency of production all depend on how effectively the allocated resources are used.

The construction industry is a complex network of the national economy in whose organization a great number of various unrelated departments take part. The administration of it requires the creation of an effective economic and financial mechanism which would be able to bind together the work of all the participants in the construction production line.

At present such a mechanism has not been worked out and the existing one focuses primarily on gross output and overall volume rather than on introducing projects and complexes. This is perhaps the most important defect; it causes a lengthening of the construction period and slows down its rate of development.

There is another vital problem which, as it were, is of basic and prime importance, and that is the provision of materials and engineering skill. If one assumes that all other problems are being resolved today but this one is not, then success will not be achieved. This is not a question of the quantitative side of the matter which our building organizations usually concentrate on--the insufficiency of construction materials. No, this is a question of the qualitative side of improving the provision of materials and engineering skill.

About 500 thousand various projects and complexes are constructed annually in the country. In contrast to the standard production-line industrial output, where the outlay of materials and items is clearly fixed at the planning and engineering development stage, in the construction industry it is impossible to determine the materials requirement for each of these projects within a centralized framework at the union ministry level.

Therefore a practice of average norms for the outlay of construction materials per one million rubles worth of construction and installation projects has been devised and is in operation. The annual need for building materials is determined according to the norms for ministries and departments. In turn, the union ministries and departments also determine the needs of their republic subdivisions (ministries, central boards and associations) according to average norms. The latter use these same average norms to plan for supplying construction enterprises with materials and engineering skill. As a result, not a single planning level for supplying material and engineering skill uses plans and estimates to determine demand. This leads to a dispersal of material resources among numerous projects, to their immobilization and to an increase of unfinished building production.

What does it mean to provide for construction jobs according to plans and estimates? The basic condition for this system is the creation of a reliable normative base which would permit the outlay of materials for a specific project to be effectively determined. This is a component part of the planning process. However, planning organizations are not doing this at the present time because with the existing practice of construction calculations for individual projects it is not physically possible to provide for this operation.

Demand must be determined according to plans and estimates, i.e. the volume of materials capacity must be given at the preplanning stage and then the projected outlay of materials must be strictly fixed, once the norms per unit of volume of building construction has been established. All factors--for example, the technology and organization of construction--must be subordinate to the outlay of materials. The use of plans and estimates to determine demand requires that the allocation of material resources be planned for the entire construction period. To use plans and estimates to provide builders with materials means not only to allocate but also to make expenditures according to them.

Builders constantly maintain that they are short of resources according to the plans and estimates and, as a rule, they do not have a record as to how the allocated resources are being expended, whereas the territorial agencies cannot control the actual outlay. Thus, difficulties consist not only of the fact that there are insufficient funds to provide the quantity stipulated in the plans and estimates but above all of the fact that the system lacks planning, calculation, limit-setting and specially qualified subdivisions in the territorial agencies that are capable of organizing on an engineering and technological basis the overall provision of projects under construction with materials and engineering skill, while working closely with the construction organizations.

Thus, in conjunction with the decree on improving planning and strengthening the influence of the economic mechanism on increasing production efficiency and work quality and with the resolutions of the November Plenum of the CPSU Central Committee, there is to be a change-over to providing

for the construction industry through territorial agencies of USSR Gosnab by orders from the construction assembly organizations in conjunction with their demand, which will be determined by plans and estimates. Such a shift of construction projects included in the state plan for capital construction to a complex-wide system of materials provision means, above all, the establishment of strict control on the part of the USSR Gosnab agencies over the allocation and expenditure of materials for each project under construction.

We are dealing here, first and foremost, with a fundamental restructuring of the system for supplying the building industry, and not with searches on the part of individual managers of building and supply organizations for a "lacking" quantity of materials. The managers who indicate that today the main goal is to find 5 percent additional resources to cover the needs of capital construction should remember that these resources can be found in above-norm unfinished construction, the volume of which is growing from year to year because USSR Gosnab and the construction ministries have not found levers which would not permit such a dissipation of material resources. For example, the main construction ministries (USSR Minpromstroy [Ministry of Industrial Construction], USSR Mintyazhstroy [Ministry of Construction of Heavy Industry] and USSR Ministroy [Ministry of Construction]) annually require an additional 350-450 thousand tons of rolled metal, whereas each year about 1 million tons of rolled metal are expended for the creation of above-norm unfinished construction alone.

Unfortunately it can be ascertained today that the territorial agencies are not fulfilling the main tasks of supplying capital construction with materials and engineering skill which were entrusted to USSR Gosnab.

And this does not happen because it is impossible to provide 100 percent of the demand for materials. The fact is that there is no engineering system for providing for capital construction in the technological chain of which the territorial agencies of USSR Gosnab could actively participate.

The creation of such a system is complicated by the fact that at the present time certain managers of construction and supply organizations consider it necessary to increase the quantity of materials allotted for capital construction rather than creating this system. They think that if agencies of USSR Gosnab were to be the holders of resources for capital construction, this would infringe upon the rights of the union ministries, since they would cease to be the fund-holders.

The question naturally arises from this as to what comprises the concept of fund-holder. Is it an end in itself, or is it powers (means) given to the union ministers and departments to achieve a final goal? The concept of fund-holder is, first and foremost, a qualitative concept and not a quantitative one.

The quantitative side of the question, i.e. the distribution of funds for material and engineering resources to their construction organizations and enterprises, both under the old supply system and under the system of providing for construction jobs according to plans and estimates, through the territorial agencies of USSR Gosnab, is actually being handled by the union ministry, with the plans for capital construction being approved by organizations subordinate to the ministry. The distribution of funds takes place both on a territorial basis and on the basis of each individual construction job that is included in the plan. However, the ministry cannot include a construction job in the plan if it has not allocated the necessary material resources to carry out this task!

And within the framework of rights given to the ministries, what does it mean for them to adopt resolutions to over-fulfill a plan for some specific project which is part of the "green light" financing plan? This means that the ministry has adopted a resolution to allocate an additional set amount materials for the building of the given project. From this it is clear that the territorial agencies of USSR Gosnab, while using plans and estimates to provide for supplying projects included in the plan for social and economic development, do not infringe upon the rights of the union ministries but actually guarantee them materially in conjunction with the resolutions adopted by the ministries.

It must be said here that in conjunction with the existing planning system there are 110 fund-holders of material assets in our country. The distribution of assets among the eight basic construction ministries can be represented graphically.

Such a wide "fan of distribution or, in other words, dissipation of materials for capital construction should, undoubtedly, be replaced by a narrow "fan." In the new diagram for the "passage" of material resources the "losses" of them in higher organizations are equal to zero, since numerous fund-holders will not touch these resources. And, it turns out, this is very useful since over the long period of their existence these fund-holders were not able to achieve the main thing: during the finishing stage of the process of providing capital construction with materials and engineering skill, they could not, as they say, make both ends meet; i.e. make the quantity of materials expended for each individual project equal the quantity projected for those goals in the plans and estimates.

In this case the fund-holder is called thus for the sake of rhetoric. After all, along with the right to handle material resources, the ministries have been bestowed with the tasks of improving the use of material resources curtailing unfinished construction and enacting measures for the economic expenditure and efficient utilization of materials.

It must be emphasized that the basic thing in supplying capital construction with materials and engineering skill, both for today's fund-holders and for the USSR Gosnab agencies that are implementing the plans for

supplying capital construction is the creation of a supply system that would provide each construction job with materials on time, in conjunction with the demand determined by the plans and estimates and would keep an account of the expenditure of these materials.

And this can be done with very little expense by the territorial agencies of USSR Gossnab, in whose facilities and warehouses the reserves of material resources are concentrated and who during the year regulate the delivery of transit quotas to any given fund-holders, depending on the actual demand of the construction jobs and projects. And today's fund-holders, the general contract ministries, have enough concerns without that: to improve the quality of projects being built (today this quality leaves much to be desired); to streamline the use of machines and mechanisms (technology is far from being utilized in the best way in capital construction); to increase the labor productivity of the builders (from year to year the plan for the productivity of labor is not being fulfilled); to decrease the volume of unfinished construction (this volume is growing from year to year); to shorten the project building periods; to work for finished products etc.

Now the problem has sharply arisen of including in the construction plans that are being developed a section on organizing the supplying of projects and construction jobs with materials and engineering skill; without this section it would be impossible to create a truly engineering, modern system for supplying capital construction. And this would require the organization within the territorial agencies of USSR Gossnab of suitable services capable on the basis of plans and estimates (norms for the outlay of construction materials per one million rubles of construction and installation projects have been designated for planning resources at higher levels) to opportunely determine, allocate, assign and provide the delivery of necessary materials for each individual construction job included in the plan for economic and social development and then to review the implementation of the plans for supplying materials and engineering skill for each individual installation.

Can construction ministries and departments organize work according to plans and estimates? They can. But in order to do this it is necessary to create a departmental supply system--stockpiles and warehouse management which will act parallelly with the warehouses and facilities of agencies of the overall state system for supplying materials and engineering skill.

Can the USSR Gossnab agencies fulfill the demands that stem from the resolution of the November Plenum of the CPSU Central Committee for the efficient use of material resources and concerning the organization of an effective control over the outlay of materials? At the present time we do not have a harmonious system, we do not have organizational forms and normative levers to fulfill this task.

Neither side can independently or separately resolve the problems of providing for construction jobs and establishing an effective control over the efficient use of resources. There must be a close interrelationship between the builders and the USSR Gosnab agencies; they must join efforts to fulfill the extremely important goal for the national economy of increasing the effectiveness of capital investments.

Over a ten-year period the system for providing for builders through the USSR Gosnab agencies for supplying materials and engineering skills was introduced as an experiment in the building organizations of Belorussia and Tataria, in the construction of KamAZ (Kama Automobile Plant) and in Latvia, Moldavia and other areas of the country. What has the experiment shown? It has confirmed the effectiveness of work by this system whose essence lies above all in the fact that agencies that provide materials and engineering skill concentrate all of the resources of a given territorial area in their own hands; they manipulate these resources and can effectively respond to the fluctuating quarterly and monthly demands of specific projects and complexes and can systematically control the expenditure of construction materials.

The new system increases the responsibility both of the builders and of the territorial agencies for the organization of the provision of materials and engineering skill and for the outlay of building materials. Expenditures for cement, for example, can be cut down from 6 to 20 percent. Losses connected with the violation of existing technology make up 6 percent, and losses can be lowered by up to 12 percent with the introduction of weight and quality control.

Blanket claims regarding the regularity of supplying metal are being raised against the sectors that provide it (ferrous metallurgy, the system of USSR Gosnab and railroad transport). However, if one surveys the flow of all resources comprising the large territorial area one finds an almost continuous and stable flow. The deformation of stable and rhythmic flows of material takes place in their branches, where a local irregularity of deliveries is formed.

Fluctuations in the flow of resources can be reduced to from one-fifth to one-tenth of the previous amount through the formation of an inter-departmental cooperative for centralizing a part of the reserves. This is furthered by the fact that not all consumers experience their maximal demand for metal at the same time, nor do the maximal deliveries and demand occur at the same time. Calculations show that with a cooperative and centralization of part of the reserves, out of ten consumers the probability that there will be a simultaneous occurrence of the maximal demand for metal among four consumers is equal to zero, and among three consumers not more than 1 percent. In this way it is possible to form centralized effective reserves without enlisting additional capital.

Under the system for supplying the construction industry that is presently in operation our local agencies are fulfilling the functions of assigning the funds allocated to them, and this is the extent of their activity. However, periodic checks on the expenditure of materials cannot render any substantial influence on economizing resources since they are, as a rule, only formal in nature, and a constant, strict system is needed that is based on mutual responsibility and constant limiting.

Undoubtedly the system of supply according to plans and estimates immeasurably increases the responsibility of both our territorial agencies and of the builders themselves and the two join efforts to resolve the very important problem of organizing efficient building production.

Unfortunately the builders and employees of the territorial agencies do not as yet have a uniform understanding of the role and significance of the new supply system. The builders are trying through this system to receive additional material resources and, as a rule, they are doing this in order to cover losses which they bear because of the unsatisfactory preservation and poor utilization of them. They advance the thesis about their removal from participation in the organization of the provision of construction jobs with materials and engineering skill, which supposedly is an infringement on their rights. But actually the numerous subdivisions of the construction organizations devote a great deal of time to obtaining resources and little time to organizing production or to questions concerning the efficient utilization of materials and structures. The new system frees the builders from supply activity and increases their responsibility for the economic utilization of resources and for the fulfillment of production plans. Employees of the territorial agencies, on the other hand, avoid excessive personal responsibility and therefore they are proceeding timidly toward introducing the system.

Experience shows that such phenomena are excluded in a system of limit-setting, mutual control and mutual responsibility. The building organizations, territorial agencies and USSR Gossnab must act as a single body, surmount the difficulties that arise and jointly resolve questions concerning the most efficient utilization of resources.

There is not even a question of the complete exclusion of the builders from resolving supply questions. Above all, they are interested in the production of construction products and should look upon the territorial agencies as assistants in this matter. This was confirmed by the experience of the territorial agencies of Belorussia and the Central Chernozem and Northern Caucasus areas. They concentrated such scarce items as steel pipes, cable products, fans and air stoves in their warehouses and facilities and issue these articles to construction projects on the basis of the actual need in each specific case. As a result there is no shortage of these materials. Such progressive methods as a centralized freight delivery, a guaranteed provision for construction projects and the servicing of them are inherently applicable to a system of supplying builders according to plans and estimates.

The question is as follows: unless the system of supplying materials and engineering skill is improved (at the present time it is being resolved on the basis of supply according to plans and estimates) it is impossible to improve capital construction, eliminate the dissipation of resources, decrease the amount of unfinished production or shorten the period for constructing projects and putting them into operation.

While positively evaluating the new system of supply according to plans and estimates through the territorial agencies, it is impossible to contend that it will be simple and easy to introduce it. This involves a large-scale serious restructuring of the mechanism for providing the entire construction complex with materials and engineering skill and requires a great amount of organizational preparation. Special subdivisions and services with an engineering bent to their activity must be created on both the horizontal and vertical axes within the system of USSR Gosnab in order to carry out this work. Administrations for supplying materials and engineering skill to meet over-all inventory and construction needs (UPTK) must be organized in every territorial agency. Their number will depend on the volume of work. The employees' qualifications must allow them to make all of the necessary estimates, competently resolve questions that arise and exercise engineering supervision over limit-setting, accounting and the efficient utilization of resources.

Construction divisions made up of from 10 to 15 persons must be organized within the soyuzglavsnabsbyts [union main administrations for supply and sales]. Their function will be to supervise the complex-wide deliveries of construction materials and structures.

Within the central apparatus of USSR Gosnab plans are being made to create a main administration--a soyuzstroykomplekt [all-union construction organization]--which will assume the responsibilities of planning, norm-setting, and interacting with the construction ministries and departments and with USSR Gosplan.

The system ought to work in the following way: the resources for capital construction that were allocated by USSR Gosplan in forming the plan for construction and installation projects are to be handed over to USSR Gosnab. Their subsequent distribution among the ministries and departments is to be handled by USSR Gosnab, its main administration or soyuzstroykomplekt.

Why should the resources be handed over to USSR Gosnab? Because USSR Gosnab and its local agencies are closer to the consumer, know the needs of the construction organizations for materials and structures better and can concentrate questions regarding planning and the effective regulation of material resources in their own hands. Therefore this is a place where favorable conditions are created for manipulating these resources which, given the atypical nature of construction production and its fluctuating plan, is of great significance.

In 1981 USSR Gosstnab is to complete the transfer of construction jobs included in the state plan for capital construction to a complex-wide materials supply system administered by territorial agencies for supplying materials and engineering skill by orders from the construction organizations according to the demand, which is to be determined by plans and estimates. Time is running out. It is necessary to act. First of all the necessary quantity of construction materials and products must be concentrated in the facilities of the territorial agencies.

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